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ABSTRACT

THE FOLLOWING TOPICS ARE GIVEN CONSIDERATION IN THE CONFERENCE REPORTS--(1) GOALS FOR EARLY CHILDHOOD EDUCATION, (2) PROGRAMS FOR EARLY CHILDHOOD EDUCATION, (3) THE EDUCATOR'S ROLE IN THE PLANNING PROCESS, (4) ENVIRONMENT FOR LEARNING, (5) WHAT THE ARCHITECT NEEDS TO KNOW TO PLAN KINDERGARTEN FACILITIES, (6) THE PLANNING PROCESS, (7) THE PARENT-CHILD EDUCATIONAL CENTER, (8) CONVERSION AND MODERNIZATION OF FACILITIES, (9) FINANCIAL RESOURCES FOR DEVELOPMENT OF EARLY CHILDHOOD EDUCATIONAL FACILITIES, (10) FACILITIES FOR PREPARATION OF PROFESSIONAL STAFF, AND (11) A MONTESSORI SCHOOL. (FS)

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CONFERENCE ON THE PLANNING AND DEVELOPMENT OF FACILITIES FOR PRE-PRIMARY EDUCATION

THE UNIVERSITY OF GEORGIA
COLLEGE OF EDUCATION
BUREAU OF EDUCATIONAL STUDIES & FIELD SERVICES
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PREFACE

The Conference on the Planning and Development of Facilities for Pre-Primary Education brought together outstanding leaders in child development, teacher education, architecture, and educational facilities who shared their knowledge, ideas, and experiences.

Selected to conduct the programs were specialists in the above fields of national prominence to bring both regional and national significance to the problems relating to the planning and development of facilities for pre-primary education, with particular emphasis on the kindergarten.

A conference summary "Sketchbook" has been printed and distributed under separate cover. These proceedings will give more comprehensive coverage to the complete conference, the major exclusion being some of the visual and audio-visual aids used by presenters.

The conference was funded by: Educational Facilities Laboratories, Georgia State Department of Education, and Southern Education Foundation.

University of Georgia
Athens, Georgia
1969

Dr. C. W. McGuffey
Conference Director

Conference Planning Committee

Dr. C. W. McGuffey - Conference Director and Planning Committee Chairman

Dr. Hilliard A. Bowen - Assistant Superintendent, Atlanta City Schools
Dr. Robert L. Cousins - Associate Director, Southern Education Foundation
Dr. Dwayne Gardner - Executive Secretary, Council of Educational Facility Planners, Columbus, Ohio
Mrs. Mary Gordon - Consultant, Early Childhood Education, Georgia State Department of Education
Mr. George Myers - President, Interstate School Building Service; and Coordinator of School Facilities Planning, Maryland
Mr. Paul H. Madden - Graduate Student: University of Georgia
Dr. Keith Osborn - Professor, School of Home Economics, University of Georgia

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GOALS FOR EARLY CHILDHOOD EDUCATION

Dr. James Hymes

Professor of Education, College of Education
University of Maryland
College Park

I AM happy to be at a meeting centering on early childhood education, and to find this deep, continuing, and growing interest in young children. This meeting represents not only a statewide but a regionwide interest in the development of good programs and good facilities for young children.

Georgia's interest and the Southeast's interest are parallel with the country's and the world's interest in young children. The obstacle--I am sure in Georgia and the Southeast, and I know in other parts of the country--is a shortage of money: the problem of putting one's heart where one's pocketbook is, the problem of implementing what one knows should be done. I suspect that a great many of us, in many different professions, are living in the hope that sometime cash will be freed and available for many different activities that all of us know to be long overdue.

There is one thing about the early childhood movement which is grounds for additional hope: the movement itself is rooted in such fundamentals, in such seemingly strong social trends, and in such basic understandings. One obviously is the worldwide awareness of the expanding field of human knowledge. One is the change in the whole role of women and in the role of our homes and in our ways of rearing children. One, tremendously pervasive, is the change in our whole culture, moving us more and more toward a technological, industrialized, urbanized kind of society, where it is more and more difficult to do for children what any one individual would like to do for his own children. One, which has almost surely been the trigger that has stimulated the specific present surge of interest in young children, is the awareness of how ready they are to learn.

I began my professional work in education in camping and spent many years working with 9-year-olds and 8-year-olds and occasionally with 7-year-olds. We always thought of our 7's and 8's as our babies, and were impressed with how young they were and how small they were and how they were mere beginners in life. This sense of how young and how small and how little is still true of some people's thinking about 5's and 4's and 3's.

But another belief has grown and has grown tremendously rapidly. It is the awareness of how much these children are reaching out to know, how eager they are to learn, how capable, how strong, how independent they are. You can make your guesses on what has brought this new awareness about. One, I suspect, is just our growing closeness with our children in our homes. We are living with them more intimately than ever before. We have more chances to get into children's thinking and we have a keener sense of what they are grasping and what they are wondering about and what they are puzzling over.

Another factor we talk a lot about is the impact of TV. Still another we probably skim over much too lightly is the automobile, which has had a great influence in getting youngsters out into a wider world and opening up for them newer and newer possibilities.

All of these trends underlie your meeting here; all underlie the state, regional, and national interest in young children. All build the sense that the children are not really quite so young, not really quite so small. My way of saying it (and probably your way) is that they are ready. They are ready for the educational experiences that can come at a good early childhood center.

The state of Georgia (and probably many of the other states from which you have come) has its heart set on public kindergarten. My own state of Maryland is much more advanced--we now have had them the past three years! We all hope and plan for public programs for 5's. We ought also to be planning for public programs for 4's, and planning for public programs for 3's.

I am interested in the wording of the conference title--Pre-Primary Education. I take this to mean that our concerns are not discretely limited to the kindergarten, although kindergarten will obviously be the next step, but to 4's and 3's as well. I say 5's, 4's, and 3's. I say this conservatively. As you know, the notion of 3's in groups in this country is now fifty-one years old. This is not a new idea of yesterday or the day before, or the day before that. It is one of the old, old ideas in this country and older still abroad. It is an idea that has been put away or put aside. Today we have to go a step further in our thinking. We have to recognize that three is even old! We had an expression in our family when we talked of our "aging adolescents." The three-year-old is today's "aging early childhooder." We face a very strong old-new basic awareness that life and learning do not begin at three any more than they begin at six or when you go to college or at any one set time. Increasingly in public planning and in looking at needs for facilities and for programs one has to have a concept of continuity and of continuous development, beginning at birth and moving on through the period of infancy and toddlerhood, into the years of 3 and 4 and 5 and then on from there.

My subject, "The Goals of Early Childhood Education," can have a million and one answers. Let me give my own answer briefly and quickly, as an educator in early childhood education. My goal is to teach 2's, 3's, 4's, and 5's. I teach 2's, 3's, 4's, and 5's the liberal arts, and I can break these down into standard subject matter headings. But the goal of every educator is to teach. The difference in early childhood is that I focus on a specific age level, the early years.

Your conference on planning and development of facilities must therefore, I believe, have as its goal planning the facilities that are right for this special age level. Knowing the age is what matters. Early childhood education is not especially different from elementary or secondary or collegiate or any other level of education. The differences are in the people who come. If someone says to me, "Well, give a quick definition. What is the goal of Headstart, or kindergarten, or nursery school, or day care, or Title I, or whatever you want to call the program?", I have to answer that it is to teach so that these youngsters live their days to the fullest of their powers--intellectual, physical, social powers--and to the fullest of their emotional capacities. My goal is to teach because I am a teacher, but I have to work toward accomplishing that goal in such a way that the living of the people who come to me is strengthened.

The basic task is to get a handle on what this age is like so that when the child comes, his feeling will be: They knew I was coming; they made it for me; they had me in mind; it feels right, because they understand me and they understand what I like.

There is one fiendish thing about young children, however. They have a chameleon-like quality. At the last meeting of an undergraduate class recently I was trying to find some way of pulling together the things we had looked at. I asked the students to put in one word their impressions of all the kids in all the groups they had observed and out of all the reading they had done. If you had to pick out one descriptive word, what would that word be? One student said, "I think I would say the word pliant." She went on to say that she had been in schools where the kids stand in line quietly, and I have been in schools where they sit for an eternity. The minute I understood her use of the word, I was reminded of a commercial day-care center I visited recently. I asked the woman in charge, "What are they doing?" And she told me they were waiting for lunch. Now, if you ask me what a young child is like, I will say that he is not a good waiter, he is not a good sitter--but here was a whole room of children, sitting and waiting. The one thing I guess I have almost learned is never to say, "It can't be done," because the frightening thing about young kids is that almost anything can be done. This is what my student saw: young children are so pliant. They can become almost anything. The task in early childhood education is to get a handle on these kids, but you have to ask: Get a handle on what kids? What five? What four? What three?

Why are communities so rarely in a position to say, "Come see our child development center. Come see it; we're proud of it; we're pleased with it!"? Lack of money can be one cause; differences in opinion about education can be another cause. But there is still another: a community has to say that we built this facility for some kids we saw once in one of their moods, one of their moods when they were sitting, waiting, quiet. We thought this was a five, a four, a three: sitting, waiting, quiet.

I keep searching constantly for ways of helping people understand the need for more good public programs for young children. I am presently feeling that one of the most successful ways is to help people look at the alternatives. So I have had a group of people out looking at young kids who are not in school, following them for half a day. How do they spend their time? What do they do? I must quickly say that for various reasons these are privileged suburban children; and I cannot say that this was a carefully conducted study with expertly chosen selections of children. But I can say that the observers came back and unanimously said, "They don't do anything. They fiddle all day long, diddle all day long"--It is an amazing report of kids beating a rose bush, not in anger, not in hostility, just beating it literally--you got to do something; of kids digging at barren soil, just digging--not to make a construction, but just digging.

Some of you may have had an occasion to hear a taped speech by an English landscape architect, Lady Allen, who says incisively that our informal survey seemed to support the fact that the two greatest hazards facing the young child are loneliness and the automobile. We were seeing a group of very lonely, very idle children. I have to add to this two other qualities. They are almost constantly eating or trying to eat: "Mama give me some candy...give me some gum... let me have a cookie." I think you can easily guess as to the second thing they do: starting with Captain Kangaroo in the morning, then going on through the most ghastly array of junk--but the children just turn it on and sit.

What is the 5, 4, 3, 2 like? It depends on where you see them. See them at home and you are apt to see a basically quiet kid, a sitting kid, much of the time an idle kid. Plan a facility that is just right for the idle, quiet, passive child and you have one kind of facility--not my kind, and I hope not your kind. When I say as an educator that "I teach," my goal is that a youngster will live his fifth year, not just tolerate it, not just survive it, not just get through it. If the child could say it he would say, "Boy, that's living!"

What are his capacities? What are his powers? What is early childhood like? I can say a few things, based on my efforts throughout my professional life to catch them at their freest (I hope that word doesn't sound naughty to you), at their healthiest, at their best--not how they live, how they are on show, on display, on Sunday, on a special occasion all dressed up, not idle, not bored, but as they are. They are different from a lot of the kids that we have been serving in school. Yet the challenge is to build facilities that are right for them. Let me give you a few observations about the way they are and then you check what I say against your own knowledge of kids and your observation of "free" kids.

I list first one of the things so hard for us in school to feel good about: these are noisy kids; they make noise with everything they do. If you have got to house them you have got to be prepared for noise, you have got to take it into account. They talk, they shout, the stuff they use makes noise, everything about them is noisy. This is one of their signs of health.

Unfortunately, most schools are not geared for noise, and most schools hate it. I get so tired of hearing teachers say, "Now we must put on our inside voices." It isn't that young children are shouting, or wild, or screaming, or running up the walls or crawling on the ceiling. It is simply that as they work and as they talk and as they give out what they have to give, noise comes along with it. These are not silent children. If we are going to say, "Look, this facility is for you," then we have to, one way or another, be equipped--equipped in location or in ceilings, or with earplugs. I don't know what it takes to make us content with healthy, busy child-noise.

Let me mention a second factor that is also hard for us in schools to deal with: these are dependent children. The minute one mentions the younger years one has to think not only of the children, but of the children and their parents. The OEO-supported programs focusing on the youngest years have chosen the name, Parent and Child Centers. But in fact every group for young children, every three-year-old group, every four-year-old group, every five-year-old group, every daycare center, and every Headstart group has to be a parent and child center. If you are trying to say, "This is the special creature, the 5, the 4, the 3, that we are getting ready now to work with," remember that he never comes alone, but always with at least one attachment, and frequently two. I use one very simple test to tell you when children have left early childhood and moved into preadolescence. Take your own kids to the movies. If they want to sit way up front or way in the back and don't care where you sit, then you know they are no longer in early childhood.

The young child looks up to adults. The young child assumes that adults will be there to take care of him. He accepts this as the natural order of things. The parent is not his enemy but the person on whom he is dependent. This calls for more than having a PTA in school, for more than the occasional, casual relationship of acquaintances. In early childhood there is the special need to think of the facility as something quite comfortable for parents to come to.

I saw an example recently that I would like to tell you about, though not in any sense of trying to recommend a pattern. This program had two rooms that happened to be across the hall from each other because it was utilizing a standard public school building. One room was for the kids and the other was called the Parents' Lounge. I assumed that the parents in the lounge were the parents of the children in the kids' room. Well, yes, to some extent, I was told, but some are simply parents who come and drop in; they don't necessarily have children in the program now. Here was a real adult center and also a children's center. But I am wrong in making them sound quite separate--there was a lot of give and take between the two rooms.

The arrangement was an improvisation, but at least those in charge recognized that you don't just put young kids on a bus, you don't just put them in a car pool, you don't just send them down the street, and say, "Now go to school and then come back." A good program is comforting to the child and efficient. It recognizes the dependence of the young kid, and the central place that the home plays in his development.

The third basic quality of young children that we must take into account in our new facilities built just for them is that the young child is a shy child, a very shy child. We are compulsive about turning young children into joiners. We expect young children to love everybody. But young children are mere beginners socially. I therefore strongly urge you: Beware of crowds. And by crowds I don't mean 600, but 22. Beware of large numbers. They are poison to the young child, who can do beautifully with 3, 4, or 1 or 5. The textbooks overplay it, but the point has some validity. This is the child who at 18 months and 24 months and 36 months was involved only in parallel play, side by side. This is the child who now is just beginning to blossom out, just beginning to bud a bit, just beginning to get an honest-to-goodness thrill out of close relationships. This is the child who needs to feel safe. This is the youngster who is ready for the tremendous adventure of going to a group, but who nevertheless is still dependent.

How do you make a place that is safe, friendly, not too crowded, a place where small comfortable groups can be? We talk of a kindergarten or nursery school, or day care. Actually there has to be, within one group, a lot of groups. A recent visitor sitting in our observation booth watching one of the groups said, "Boy, it's just like a three-ring circus." It was like a three-ring circus. It was in fact an eight-ring circus. It was one group subdivided voluntarily and constantly. Never that morning was the group all together, teacher up front, group around. There was a lot of teacher-talk but the teacher wasn't the prison guard up on the wall. She was right down where the youngsters were, where they could hear her and could respond. It was face-to-face, eyeball-to-eyeball conversation. It was a safe setting. If I may use a word that did not begin at the early childhood level but at the secondary level: it was "relevant" education. What was going on in each of these eight circuses had meaning to the kids who were right there. This was where they chose to be.

Everything--facilities, teacher attitudes, materials--has to be highly personalized at this age level. I must quickly interpret this to mean highly humanized, because I have been troubled when I have in the past used the word "personalized" to hear some take this to mean "one tape recorder for each child." You have to build for a humanized education, for a setting that makes possible comfortable separation for youngsters who want safety, who love to talk in small buzzing groups, who have keen interests but who find it awfully hard to care a hoot about the other guy's interests, shy children but busy children when their shyness is respected.

What is the young child like? One of the truest things that one can say about him is that he does not really know very much. If that sounds nasty, you have to add quickly that he would love to know a heck of a lot more. This is an age which needs settings and facilities that can give solid, grounded feelings for what life is about. If you want a specific tip on facility planning, be sure that the facility has three big wide doors so that once these kids come in they can be taken out very quickly. Their great need is to see reality. Their great need is to see the "for real," the "for honest," the "true." They fool themselves and they fool us by sometimes having words and underneath the words there often is nothing but confusion. One of the reasons for having early childhood centers is not to keep kids in but to have a device for enabling them to get out.

I don't know where transportation fits in among the facilities you are planning for, but it must be provided. Also, it is crucial that both the indoors and the immediate outdoors of the facilities be sites where work can go on. We are talking about school and about the teacher's job to teach, but this does not mean books alone, it does not mean words alone. For beginners, for ignoramuses, for kids who don't know very much, good education means the chance to be dealing, outside or inside the classroom, with the most real, the most concrete kinds of things imaginable. One concrete illustration (so trite I apologize) is animals. I mention animals because I am aware of how so often they are not allowed (unless they are in eggs) for 5's, for 4's, for 3's.

These youngsters are begging for straightforward, simple, clear, understandable images of the real world; they also need what is the obvious inevitable counterpart of this--the chance to react to all that has come in. These are noisy, dependent, shy, egocentric, ignorant children. My last point is that they are also full of a million and one things that have been coming into them, hopefully from a good school program, inevitably from TV, from their family living, from what they have overheard and have not understood, from relationships with their peers. They are full of feelings, and full of sound ideas. They are also full of half-baked ideas.

In my classes I do what I am sure all of you who teach college classes often do--we lecture, we show a film, we throw out a provocative question, and then we say, "Talk it over among yourselves a minute and see what you think." Talk to your neighbor, talk about it. This is fine for the college age, but young children are not good talkers. "Talk about it" will get you nowhere with 3's, 4's, 5's, 2's. However, these children have things that need to be expressed. So if you want to say, "Look, we're glad to have you, we're ready for you, we knew you were coming," then somehow facilities must be geared for the expression of emotional and intellectual reactions in many varied non-verbal ways--sand, wood, clay, water, dolls, play, paint, all kinds of things. All kinds of things that tend to be noisy. All kinds of things that tend to be messy. All kinds of things that tend to be individual. All kinds of things that tend to be highly personal.

You are meeting to plan facilities, a fabulously broad nice word. I am glad you didn't say "classrooms." That, to me, would have had an indoor sound. For children this age, this body-proud age, this social age, the room must be both indoors and outdoors. I often use the terms "indoor" and "outdoor" classroom, because they need both. If we are going to take the giant step of extending education downward--not in a diluted form of what has been first grade but truly extended downward in a way that is right for the children who come--maybe some such term as "laboratory" might be better than "classroom."

On our Maryland campus this is one of the things we are proud of: "Let us show you our laboratories." That does not mean that kids are guinea pigs but that this is where they, at their age, study, study, study in their special way--not quietly sitting, but up and around and doing things. We also like the word "studios"--"Let us show you our studios." This is not saying that the children simply play and paint. It is a way of describing facilities that fit their style, where the children are active and moving, using materials and talking as they work.

I don't know whether the words or labels or titles help. The problem is one of creating a facility that fits, not all the things these pliant kids can be, but the best of the age, the most comfortable qualities of the age, the most mentally healthy functions of the age. A facility is needed that lets these children flow at the peak of their intellectual and social and emotional powers, so they can know they are not just like all other children but are in a very special time of life and stage of development, one we have to learn to love, one they can feel proud of living.

A PROGRAM OF EARLY CHILDHOOD EDUCATION

Helen F. Robison

Associate Professor of Education
Teachers College, Columbia University
New York City

AMERICAN education is undergoing an exciting period of change today, as initiatives and responses are fashioned to meet the sharp challenge of social change. Efforts to improve the educational experience of the most deprived groups in this country inevitably engage the total educational enterprise in soul-searching evaluation and reconstruction.

The sudden growth of educational facilities for young children has been one of the outstanding features of this decade's preoccupation with better education for disadvantaged groups. Head Start was the mechanism for instant early childhood education. Opportunity and money brought classes for young children into being almost overnight. At the same time, kindergarten education has been expanding through new or increased state and local financial support, and nursery schools and day care centers are also increasing rapidly, to try to meet some of the demand for educational experiences for children under six years of age. With this dynamic growth has come a flood of research and studies of programs, content, teaching, learning, and technology.

Early childhood educators used to be able to agree with each other about what was "good" or desirable in programs for young children. In this period of change, it is easier to raise questions than to formulate conclusions. The current ferment raises anew the age-old question, "What knowledge is of the most worth?", as well as the equally perplexing question, "How do we help children to achieve whatever it is we think is best for them?"

While there is considerable disagreement among educators about what subject matter content is most suitable for the education of young children, there is more general agreement about physical facilities required and about the environment and activities which are especially appropriate for children under six years of age. Despite unanimity on developmental procedures for young children, there is increasing differentiation in programs and experiences designed for specific populations of children. For example, program designs vary for children likely to suffer from academic disadvantage, or from language problems which require learning English either as a second language or as a second dialect.

Instructional programs thus vary with the socio-economic conditions of the population, as well as with any other characteristics of the group which require special attention. There are, of course, program universals which are geared to the nature of the young child and to the course of his development. Everybody knows that young, growing muscles need freedom to move and that the young child needs more frequent opportunities for food and toileting than older children. Another universal is based on the way young children grow and develop concepts and modes of thinking. Since the young child's experience, needs, and intellectual functioning are qualitatively different from the older child's approaches to learning, educative activities and teacher guidance must necessarily be different. These are basic and inescapable needs to which all programs have to accommodate.

Today's Child

Once we note how much variation there is in home living conditions and experiences among different groups in our population, we face the overriding press of modern American life. This means television in every home and more hours per child in televiewing weekly than in school. This means a world of vivid sense impressions, auditory and visual, bombarding children, stimulating them, confusing them, propagandizing them.

Modern technology penetrates every facet of our culture. TV at home is part of many other sensory stimuli to which the young child is subjected. Others might be "piped-in" music, news and commercials on buses and trains, in restaurants, amusement parks, on beaches and in other recreational areas, in stores, supermarkets, and factories.

Television, tape recorders, telephones, movies, advertising signs which may or may not include sound and motion--much of this technology operates upon the child where he is part of a captive audience, with no escape, no "off" button, or even worse, no volume control. If we sometimes wonder why the modern child seems so little capable of self-containment, of enjoyment of privacy, quiet, and solitude, it might be helpful to assess the effects of the psychedelic, overstimulating world he is experiencing. Sensory overstimulation and conceptual indigestion may be the most frequent symptoms of the unregulated use of mass media of communication.

Another vital feature of the child's world today is the increasing extent of environmental damage for which modern culture is responsible. The child is a part of an ecological system which is stripping our planet of its natural riches at an unconscionable rate and leaving its wastes to pollute the air, the water, the oceans. And now, with interplanetary travel, we have for the first time in human history the awesome opportunity to pollute the environments of other planets as well. This is contemporary ecology, featuring man's carelessness with his own environment through lack of forethought or collaborative efforts in conservational activities and goals.

This ecology is partly the result of the extreme sense of division of labor with which we live. Street cleaning and beach cleaning are governmental responsibilities. Hence, individuals are absolved of any need to help. Rising individual irresponsibility coupled with mountainous demands on the governmental apparatus insures landscapes which will become drearier, more polluted, and more rubbish-bearing than ever before.

The population explosion is another important feature of modern life. More people populating the same territory inevitably means more mass experience, crowding, merging oneself in groups, and losing elements of personal responsibility in making choices and decisions. Collaboration and cooperation may emerge as stronger values than before, on an increasingly crowded planet, but unless these values are heavily weighted with humanism, individual moral responsibility, and intelligent choice-making, mankind faces a bleak prospect indeed!

However, all is not grim in the contemporary environment for children. To balance the destructive trends in the current scene, we can take note of the great advances in medical science which save lives, reduce physical illness, and suggest improved treatment for the physically and emotionally disabled child. We also have, as never before, overriding concern with educational opportunities for young children and a truly democratic emphasis on the needs of the neediest. Research and experimental programs and surveys of educational facilities and programs for young children are piling up vast stores of information which will surely yield enough nuggets of gold, in the near future, to insure continuous improvement in the earliest, and most important, educational experiences offered to the child.

Programs for Young Children

With all the variability in current programs for young children, there are trends and continuing assumptions and beliefs, based on extensive experience, which can be identified as dominant in early childhood programs today. These program elements can be viewed in separable aspects. Each of these elements is actually an inseparable part of a unified whole, in any clearly defined program, but for the purposes of analysis they will be briefly viewed as though they were separable units.

Content

To most adults, early childhood programs seem to be chiefly characterized by play. The powerful learning mode known as play, which is indistinguishable usually from work, for the young child, often obscures the content with which he actually is dealing.

While the content is described and offered under different labels and guises in different schools and curriculum guides, it can be said that, regardless of the guise in which the content appears, young children generally struggle to make sense out of the world in which they live. Some five-year-olds are in programs known as kindergarten readiness, others are in programs described as "developmental"; some are in Montessori-type programs or other programs which are gaining in popularity, such as those of the British Infant Schools, or programs which are strongly based in the arts or on technology or in some specified area.

In some cases, children are dealing with early decoding and encoding of reading skills, or with skills of auditory or visual discrimination, or with some introductory academic work in mathematics, science, and the social sciences. It is true that the manifest content may appear vastly different if each of these programs is compared with the others. Some children use books, and some use only objects and action. It may be that major differences cancel out because most classes are similarly equipped. If children all play with blocks, puzzles, and other manipulative materials, engage in art experiences, dramatic play, and music and language activities, it may be minimally important what other content is offered by the school or what form this content takes. It may be that young children digest all this content in their own inimitable fashion, sloughing off all that is irrelevant and inappropriate to their developmental needs. A truly distinguishing factor is the nature of teacher guidance, no matter what content is offered.

Making sense out of his world engages an enormous amount of the young child's energies and time. He is occupied with the continuing need to structure his sensory-motor experiences in order to fashion predictable regularities of understanding about space, time, quantity, and people. Since the child has to construct his own concepts out of his personal experiences, he is engaged in an endless process of approximation, testing, reconstructing, and acting on the growing and changing notions he fashions. Everything the child encounters is grist for this mill. He picks up a large array of factual information in the process, and while the factual loads become increasingly heavy and useful, their most practical use is to feed the child's data-processing functions so that his conceptions become more reality-oriented, more differentiated, more reliable, and more complex.

Some psychologists are making an interesting distinction between fluid ability and crystallized intelligence. This contrast is frequently referred to in the articles on raising the IQ which appeared, starting with Jensen's article, in this year's winter and spring issues of the Harvard Educational Review. This distinction has an important bearing on programs for early childhood education. Crystallized abilities are described as "diverse and specific," while fluid ability is more general, analytical, conceptual.* Fluid ability is equated with general intelligence and is reflected by behavior such as analytical or transformational acts. The point is that crystallized learnings are easy to pick up but conceptual learning ability is the basic intellectual tool available for adaptation to a rapidly changing environment. While the child needs the facts and skills which contribute to his crystallized intelligence, our basic concern must be to nourish and support the fluid ability. Many early childhood educators continue to believe that conceptual learning is nourished best in open-ended programs where content is not too specifically prescribed.

Content may be offered to children in many different forms. Content varies widely in its form and derivation, with no sure guides to optimum selection. Sometimes, content is derived from one academic discipline or another, or is an integrated, undifferentiated whole, or is a series of units about the circus, transportation, families, community helpers, and the like. One trend is to formulate content from academic disciplines, as in the AAAS or SCIS science programs, or in the mathematics content selected for initial study in such programs as the Greater Cleveland Mathematics Program. Academic material is usually transformed so that it is offered to children in the form of concrete objects to be manipulated, or actions to be performed, with teacher guidance. In many cases, paper-and-pencil activities, either in workbooks or in teacher-prepared dittoed material, accompany the manipulative, active experiences. Many early childhood educators question whether the paper-and-pencil exercises contribute in any substantial way to children's construction of initial concepts, but parents tend to value "skill-drill" procedures for practice and seeming rigor in learning.

In the next few years, there is likely to be a great deal of research on content for young children's programs. We know very little about what difference it makes whether five-year-olds experience a program which is fundamentally "academic" or the reverse. The indications are that modern five-year-olds can benefit from various kinds of challenging and stimulating programs in school, provided the content does not require excessive physical or emotional constraint.

The crucial questions about content usually relate to methodology and to requirement about choices and pacing by children. If the content requires young children to deal with second-hand, abstract forms of information, or if all children are expected to achieve mastery of the same material in a lock-step fashion, the content would obviously be inappropriate. Other inappropriate requirements would be long periods of sedentary tasks, with physical constraints, lack of choices in task selection, and intolerance with spontaneous conversation.

Language and Concept Development

The five-year-old has completed a substantial part of his oral language development, barring instability with irregular and complex syntactic forms. He will be adding vocabulary all his life and his experiences will transform word meanings and contribute increasingly personal significance to the symbolic forms of the spoken and written word.

But oral language development, while considerably advanced by age five, is still incomplete. An important requirement of young children's language perfection is the need for free spontaneous speech. The young child has great listening needs, as well--he must continue to hear varied forms of well-modulated adult speech and to interact verbally with his peers and with adults, as his speech matures. The input for children's speech is other people's and their own. So, both speaking and listening are important features of early childhood programs. Listening experiences have been greatly aided by technology, including the telephone, record players, tape recorders, and films and filmstrips with sound. This technology is often a two-way street: children can record material to which they or other children can listen. Thus, speaking feeds listening, and vice versa.

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*See expecially Lee J. Cronbach, "Heredity, Environment, and Educational Policy," Harvard Educational Review, Vol. 39, No. 2, Spring 1969, pp. 338-47.

Technology is helpful but not a substitute for people. Spontaneous dialogue and live speech are so effect-laden that children must not be deprived of the human models they need, because identification and imitation may be among the most painless forms of learning we can offer children.

Concepts develop in the mind of the child, as he shapes and extracts understandings from his actions and his perceptions. Concepts are not born in the child's mind in mature states, but are gradually built, refined, and clarified with experience and maturation. "Telling" children does not usually enable them to construct concepts. Children thus require an inordinate amount of action and manipulation on objects and in the environment, for challenging learning experiences.

Conceptual growth is slow. Piaget has described the process by which the child's intelligence increasingly adapts to reality through a continuous process of interaction between growing and maturing intellectual structures inside the child and the external environment. Piaget's description of the growth of intelligence focuses on the processes of assimilation and accommodation, which seesaw back and forth from one temporary state of equilibrium to the next. These processes suggest that as the child's maturing intellectual apparatus enables him to take in more of reality, the information the child receives constantly requires him to change his conceptions so that they gradually harmonize with reality and with mature conceptions of the world and its forces.

An important aspect of young children's intellectual and social development is social learning. Through interaction with other children and adults, children gradually learn how other people think and feel, and this social experience exerts a strong influence on all aspects of the child's development. For example, children derive some important features of their self-concepts from the way other children and adults treat them.

Activities in School

Activities in most classes for young children are surprisingly similar even when very different content is being offered. Action, movement, manipulation, construction, and transformation of objects are key forms of school activities.

Art activities are usually abundant and may include, in addition to crayons and pastels, easel painting, collages, finger painting, work with clay and other plastic material, and cutting and pasting projects. Physical exercises, dramatic play, movement, and outdoor playground equipment feature varying kinds of large and small muscle coordination. The arts generally offer practice in small muscle coordination as well. Music and dance usually feature action as much as esthetics.

Manipulative objects are numerous, including puzzles, blocks, construction sets of all kinds, nested objects, cubes, beads, pegs, and pegboards. Some of these require tables, but many of the manipulative activities are best placed on the floor. Uncluttered floor space and movable furniture are obvious musts in classes for young children. Rugs are becoming popular features of such classes, either to cover the block area to deaden the noise of block building, or to demarcate a warm and special place for reading a book, having a discussion, or viewing slides, a filmstrip, or a movie. Young children sit on the floor a great deal in school. Sometimes they lie on the floor--in dramatic play, in block construction, in listening to a recording, or while resting.

Purposeful manipulation and transformation of objects often are planned through work at the carpentry bench, or through cooking experiences. A freshly baked cake is not only a delicious end-product but a challenging focus for reconstruction of objects and procedures which can no longer be checked in the "here" and "now." Forms of dramatic play are fostered in classes for young children for a number of important purposes. Imaginative play offers children uniquely rich opportunities for exploring meanings of concepts, for dealing with material verbally and symbolically as well as physically and concretely and for verbal interchange at intensely personal levels of significance. Dramatic play requires objects, costumes, and equipment, and space and time. "Make believe" has important affinities with representational and symbolic modes of thought--the more deliberate and conscious, the better.

A prime objective of early childhood programs is socialization of the child in the norms of school behavior. Action and experience in school feature appropriate forms of children's verbal and non-verbal behavior, acquisition of simple rules and standards for conduct, adequate self-control and responsiveness to adults and children, and expectations of satisfaction and intrinsic rewards from school participation.

Teaching Roles

There are extremes of teaching roles, but in most classrooms, teachers change from role to role, as needed, for different children or for various types of content. The most important forms that teacher roles take include planned observation of children; structuring the environment to feature and suggest challenging forms of action and playful practice activities; modelling desirable forms of social, cognitive, and linguistic behavior; and guiding children's school activities toward deep involvement in self-propelled and self-selected experiences. Teachers strive to help children develop task orientation, persistence in meaningful activity, intrinsic satisfactions in learning, and motivation for continued school learning. Direct instructional teaching is rarely featured in some programs, but is carefully developed in the Montessori curriculum and in some of the newer programs for young children.

Teachers guide children's play, often, toward grappling with problems, identifying confusions, and in the direction of clarifying forms of interchange or actions. Teacher guidance may be in the form of suggestions, offers of props, participation in the play in a minor or major role, or of intervention toward reality testing. A teacher of a prekindergarten class in an urban slum area entered store play as a customer. Before her intervention, four children were aimlessly stuffing double-handed shopping bags, sitting on the floor near the shelves where empty food cartons were stored. When she participated as a customer, she asked for an empty shopping bag. When a child handed her a bag which was partially full, she inquired, "Is this bag empty?" Her purchasing requests required the children to engage in careful listening to purchase orders. The children began to search the shelves for specified foods, to differentiate cartons from each other, and to name different foods. It was noticeable that the children's enjoyment continued at a high level during the period of teacher guidance, despite the new challenges she offered, or perhaps because of them.

When the teacher asked for "something to drink," the children rummaged for the items which belonged in this classification, finding several different ones, eliminating objects which did not properly belong to this class. Other learnings flowing from the teacher participation were model forms of appropriate verbalizations between customer and store employees, precision in use of labels, and new vocabulary used in context.

Teachers are beginning to make important progress toward diagnostic testing of children, to gauge progress and to plan for specific content needs. For example, a kindergarten teacher noted how seldom her children could distinguish right hand from left. A quick checklist form of test established the unreliability of this concept for most of the class. As a consequence, she planned use of standard cues to help children make correct judgments and to associate the concept and action with the word, taking the guesswork out of the task.

The "teacher" of young children is increasingly a team. There are teacher aides or other paraprofessionals in many early childhood classes today, working with the teacher to offer the young child as individualized forms of experience as possible. In some schools, parents or other volunteers provide assistance to the teacher.

Expectations about Achievement

It is important to be clear about teacher expectations of young children's achievement in school learnings. Increasingly, the trend is toward more specific behavioral goals, instead of very general objectives, although many schools continue to prefer the general rather than the more specific goals.

However, goals are simply directions, not requirements. No absolute standards can be used to screen successful children from failures. The only standard is progress for each child, at his own pace and in accordance with the interests and skills he may have available for any specific goal. Some five-year-olds cannot distinguish one letter of the alphabet from another, whereas others read at a third grade level. Early reading achievement is greatly prized by parents but is yet to be reliably seen as a long-term advantage.

Many kindergartens offer practice in such initial reading skills as visual discrimination among alphabet letters and numerals, phonics, rhyming, and other forms of auditory discrimination. Experience charts and other forms of encoding language are strongly featured in most kindergartens. Initial reading instruction for selected five-year-olds is a growing trend but there is considerable controversy about its value, methodology, and results.

However schools evaluate and describe children's progress in school, it is essential to take a developmental view of the child and to chart the changes which teachers detect or identify in behavior and skills. Children are neither "satisfactory" nor "unsatisfactory," but they all vary widely in the range of their competencies and learnings. School expectations, then, do not require measurement by absolute standards. Each child is viewed both in the uniqueness of his total personality and in those specific aspects of his functioning which school demands uncover. The normal range of functioning for young children is wide and encompasses varieties of immature behavior, which drop out sooner or later as the child benefits from his school experiences and his increasing physical and social maturation.

Parent Relationships to School

The young child cannot be educated by the school alone. He is still very close to his parents and his parents are too deeply involved with their young children to make separations other than partial or temporary.

The tide is running strongly in the direction of close parent-teacher collaboration in early childhood education. Whether parents aid teachers in volunteer or paid roles, parent groups are increasingly requesting and receiving the right to participate in decisions about the nature and content of early childhood progress. Parents are unwilling for teachers and schools to make all the educational decisions or to reserve to themselves all criteria and procedures for evaluation. Opinion among educators remains divided on this issue.

Parent education has long been a function of many nursery schools and day care centers. Parents, however, are less inclined to be educated by school personnel today, and regard themselves as partners with educators in the community effort to improve educational experiences for young children. This parent attitude seems to be a very constructive one, changing parent educational participation to a much more active role, challenging the school to offer the child optimum educational programs. The closer parents are to an appreciation of the complex and subtle processes of early childhood education, the more fully they will support the school, politically, socially, and financially.

Good Programs for Young Children

Although there is much disagreement today about what is the best program for young children, I would like to identify what I regard as the most important features of a good program. These include warm and well-trained teachers, adequate and varied equipment, practical and usable indoor and outdoor space, a philosophy which respects the independence and autonomy of teachers and learners, and some rational way to select content. I think an important feature of the physical space we provide for children is esthetic, both in form and in detail.

The teacher's independence has limits, of course, as does the child's. The teacher's independence must be balanced by responsibility and objectivity; it includes willingness to entertain new ideas and evaluate proposals for change based on data and reason. It also includes the need to justify and rationalize procedures, so that dialogue is possible with other educators as well as with parents and community leaders. The self-contained classroom is gone for good and it is good that it is gone. Expected benefits may be changes in teaching from pure intuition and idiosyncrasy to objectively determined decisions which admit of discourse, study, and analysis.

I value programs which offer young children substantial opportunities for imaginative play. Playfulness assures deep involvement, real choice, and intrinsic motivation. Playfulness and play are not always highly valued by parents or educators but fortunately are difficult to eradicate from early childhood programs because the nature of the young child is to be playful, no matter how hard he works at it.

Playfulness alone might tend to move children too far toward fantasy and idiosyncratic reasoning. Play combined with varieties of information-seeking and problem-solving actions may serve to spark reality-oriented tasks and challenging learning. Therefore, if children are permitted to manipulate their environment playfully, I see a need for teachers to feed play by providing children with meaningful concrete experiences for elaboration and personal distortion.

It follows that teachers have a further responsibility to structure opportunities for children to compare imaginative notions with increasingly realistic ones, in ways which really speak to the child. Thus, play, experience, structure, and practice are all parts of a good program. Most of the controversy today centers on what proportion of the total program to allocate to each of these significant elements.

I think an excellent program can be built largely on fun and games. If the games are purposefully selected and ordered in some rational sequence in relation to children's growing conceptual competence, the program will be manageable, it will be satisfying to teachers and children, and a great deal of intellectual and social learning will occur.

Finally, I have considerable bias in favor of identifying appropriate content and weaving meaningful experiences into this frame, so that, along with fun and games and playful behavior, a substantial fabric emerges which can support the varied competencies and interests of a class of children and adults. Please note that my bias does not presuppose that most programs lack content. What most programs lack, in my opinion, are specific decisions about what content to deal with, and what value the content will be given in the program as it is implemented with children.

It has been common for teachers of young children to make intuitive and "on the spot" decisions about using content. My experience has indicated that such spontaneous and unplanned use of content necessarily results in the use of superficial material which can rarely be developed to the satisfaction of children who need challenge and varied opportunities for exploration and manipulation. When teachers select and prepare content for classroom use, their interactive behavior and guidance are informed, their proposals and suggestions are specific and knowledgeable, and they can concentrate on improvising patterns for children's confrontation with this content, as it seems helpful to do so.

The arts seem to me to be one of the most important content areas for children's learning. Well-planned experiences in music, dance, painting, clay, and other art materials not only engage children in [illegible]ul action but carry a heavy load of perceptual learnings. Good teaching is essential here to help children to deal conceptually with stable sensory data. Children can not only learn songs and chants but they can also begin to understand and manipulate pitch relationships, rhythmical patterns, and the form and structure of well-known music. To quote an old cliche, we certainly want to take children where they are, but we don't need to stay there--we can go on together to new learning challenges.

You may notice I have omitted crafts. This is not because I see no use for crafts in a good program. I do, whenever crafts serve any useful purpose--sensory, physical, or cognitive. I find most craft work in programs for young children are "busy work" or show-off pieces, with little or no planned learning. These, I prefer to do without.

To summarize, I think a good program for children has form and structure, in addition to large doses of free and playful use of objects and materials. Such a program offers minimal physical constraints, tolerates free movement, play, and conversation, and respects children's choices of activity, within stated limits. I should add that the teaching in such a program is mostly tutorial and personal, sensitive to the needs and competencies of each child as a separate and autonomous person. There is trust in the child, with the expectation that he will become increasingly independent in his learning behavior and responsible for his actions. Collaboration and cooperation would be fostered, in the interest of a comfortable, orderly environment which supports the varied interests of the group but conserves the equipment and space for continuing, satisfactory use. The virtues of individual rights are balanced against group needs, in a dynamic interchange which forces children to consider both.

Here is a final note related to the diagnostic checks. I think good teachers need, in order to plan for meaningful learning, to record systematic information about children's progress in conceptual, physical, and social learning. Very few programs now meet the requirement of evaluation of learning need, processes, and products.

Conclusion

To return to the oldest question in education, "What knowledge is of the most worth?", programs in early childhood education offer numerous and different answers. Content varies from relatively unstructured encounters with objects and materials in playful situations to highly structured programs to teach reading and mathematics, as well as initial learning in other disciplines.

The answer to our perplexing question may be other questions, especially these: "For whom?" and "For what purpose?"

THE EDUCATORS' ROLE IN THE PLANNING PROCESS

W. D. McClurkin

Director of Surveys and Field Services
George Peabody College for Teachers
Nashville, Tennessee

FACILITY planning is a local school system operation. To be sure, we have evolved professionally to the point where school administrators can talk glibly and with an air of sophistication about their role in policy development, educational specifications, and coordination with the architect. But, I will lay odds that your conference planners have pulled the rug out from under these school administrators. I will even bet that the typical school superintendent in the southern states never attended a nursery school or a kindergarten as a child, nor has he ever administered them as operational programs in a public school. Consequently, he has only a supporting role to play in the planning of facilities for early childhood education. He probably has no competence at all in the field of pre-primary education, with perhaps a one-time Early Education course on his transcript.

Witness the contrasts that exist in current practice in the concepts of educational leaders. In Tampa, Florida, the Head Start program is carried on in the public schools, yet the price paid is half-day sessions for the primary grades. I question the soundness of this value judgment. In other southern communities, Head Start has been denied space or support in the public schools and has had to operate in churches, vacant store buildings, and elsewhere under non-school auspices. I am convinced of the unsoundness of this judgment. Yet, I must confess that my closest contacts with pre-primary education have been through my children in their two years of nursery school and one year of kindergarten in our private institution; and I never had any administrative experience with them during ten years as a city school superintendent. All of this is to support my thesis that the educational role must be played by a team or troupe rather than by any one category of educator.

We have had pre-primary educational programs for longer than current educators have worked. We all grew up with the professional doctrine that kindergartens were beneficial to children. Yet, the impetus for the recent state legislative activity in early childhood education did not originate with the local school administrators: Virginia's mandate for kindergartens, South Carolina's recent compromise million-dollar funding of pilot programs, or the brash move in Arkansas this year to remove the lower age limit on public school programs and to permit public kindergartens. Thus, while we may regret the inexperience and lack of competence or training on the part of the school superintendent, we certainly are not inhibited by traditional or current practices.

The perceptive educator must be aware by now that public school service is going to be afforded to children at an earlier age than heretofore, even if sacrifices must be made elsewhere. When he faces this question, he must also be aware that the typical school system is not staffed with personnel qualified to plan for early education. The most perceptive school administrators have already canvassed their professional staff resources, realized that there is a critical shortage of trained personnel in early childhood education, and have deployed selected personnel under school board subsidy to acquire professional training in the field. Title III has supported this.

The superintendent has some early responsibilities in the planning process in which he plays a strategic role. His first is to marshal the professional resources he will need in order to formulate philosophy, objectives, and policy statements to be recommended for school board consideration. He will screen the central staff if any, the teachers, and parents for particular professional competence, and with no direct concern for "participation" or "representation." The likelihood is that in all but the largest school systems outside help must be brought in from such sources as the state department, colleges and universities, special-interest organizations, or carefully chosen free-lance specialists. The superintendent needs this novel and special help to avoid the pitfall of a tendency to modify policies from the existing primary grades and adapt them to the pre-primary program.

When this group is organized its charge should be to start with a clean slate, analyze the child population to be served, bring to bear the professional knowledge of early child growth and development, identify the social and cultural patterns in the neighborhood(s) to be served, determine the successful experiences of kindergartens, nursery schools, and child care centers elsewhere, and finally to tailor-make a program within projected budget allowances.

The task force has many decisions to make before policies and goals can be designed for board adoption. These decisions appear to fall into three main groups: objectives, program, organization. Related directly to Objectives are options regarding the nature of the pre-primary agency in terms of play school, child care center, day nursery, nursery school, kindergarten, and mother- or parent-education. Related also are emphases on physical development, behavior control, emotional development, cultural reinforcement, health security, learning readiness, therapy, and the like.

Related directly to Program goals and policies are decisions about age limitations (such as a 24-month or 36-month age range), transportation and travel, indoor-outdoor activity, professionalization of teachers, visitation and observation policies, separation from primary school facilities which are out of scale, and options for individual-centered work and play of the nursery school program or the group-centered activities of the kindergarten. Especially needed is the help of early childhood education specialists in formulating the educational objectives of the pre-primary program in terms of reasonable learning goals for the age groups served.

The third group of decisions influencing policy development is related to Organization. Professional judgments must be made regarding governance by the school board or neighborhood parents, management with one administrator in total charge of the center, supervision which will include separation from but coordination with the primary programs, a variety of staffing decisions covering teachers, aides, nurses, cooks, housekeepers, secretaries, and business agents, and decisions regarding desirable sizes of the enrollment for efficiency and economy, the sizes of child groupings, and the allotment of staff to child groups.

The responsibility or role of the administrator is the organization of a team competent to make these decisions, taking care of the physical, financial, and time arrangements for their work, and providing coordination and leadership. Members of the team must be able to work together, drafting written statements of philosophy, goals, and policies, which the superintendent is to take to the school board with a recommendation for adoption and inclusion in the system's policy manual.

The next element in the role of the educational administrator is in the development of the details of a program design compatible with the objectives and policies approved by the board. At this stage our typical superintendent likely will need to regroup his team and possibly make some substitutions. For example, in the earlier stage of policy formulation such resource persons as parents, sociologists, social workers, municipal planners, and so on, will have been utilized. Now comes a stage when the professional teaching of young children is the paramount concern, and the administrator needs the help of teachers, nutritionists, medical and health specialists, child psychologists, and, again, the consultants in early childhood education.

The charge to this new team should be in writing, describing the child population to be served, the desired plans for grouping age levels, the assignment of staff personnel, and the design of sequential elements in the program. Out of these factors will come daily schedules of activities by groups, description of equipment and materials used, and area requirements and space relationships. Though it would be desirable to have the appointed architect participate with this task force, in my judgment he should not have more responsibility for participation than any other member of the group. At this stage he is needed for the orientation and benefit the study will give him rather than for any professional contribution he can make.

I have a particular reason for saying this, which I can illustrate with two quotations. An early leader in kindergarten and nursery school administration, including the supervision of eleven Lanham Act schools during World War II, had studied pre-primary education and visited all over the United States, and in England, Russia, Germany, and France. She has this conviction regarding the ideal nursery school:

> A nursery school building ought to be close to the ground, with direct access from the playroom to the toilet, and to the outdoor play area. If there is reasonable indoor and outdoor space, all other problems can be solved when the playroom-toilet-playground arrangement is satisfactory. But the majority of nursery schools in the United States do not have direct access from the toilet to the playground as well as to the playroom. Although architects and those responsible for planning the nursery school building should know that two-year-old children have to get to the toilet often, they seem to be oblivious of it. Only two of the Golden Gate schools have this feature, which more than any other architectural arrangement affects the pupil-teacher ratio possible in a given set-up. Satisfactory toilet arrangement is number one on a list of desirable building features.[1]

Only two years later we find a professional architect and his wife, who specialize in pre-primary schools and who have visited schools here and abroad, being somewhat patronizing and condescending:

> It is important for the educator to familiarize himself with the work of the architect. Very few laymen understand that he must not only be a creative artist, but must master and control technical, organizational, and financial problems--and all this at the same time....They /writers/ emphasize that the designer must not merely have full knowledge of materials and construction, but must search out the child's needs. He must understand children and know how they grow, physically and mentally /this is

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[1] Rhoda Kellogg, Nursery School Guide. New York: Houghton Mifflin Co., 1949, pp. 14-15.

> one or two doctorates]. "He must know *what* the school attempts to do, *why* it does so, and *how* it accomplishes the task" [another one or two doctorates, and he still won't know]....
>
> Every architect appreciates his client having some conception of what he needs. Therefore the architect is very much interested to learn the educator's ideas on pre-school buildings. Each individual educator will, of course, have his personal opinion as to the character or the details of a school building.[2]

Regarding the all-important location of the toilet room, he says, "The location should preferably be right off the playroom and near the door leading to the outdoor play area." This is why the architect should be a member of the program planning team, because the generic "educator" is going to wind up almost in the role of the client's wife when the team says, "You'd damn well better open the toilet room directly into both the playroom and the outdoor area." The school administrator will want this particular architect to learn this language.

When the program plans shape up, the educators' team will have definite ideas regarding the physical properties needed to carry on the program. These ideas may be expressed regarding: space requirements; kitchen; an isolation room; storage space; office; janitor's closet; tables and chairs; sleeping equipment; indoor and outdoor equipment; and materials and supplies. When these ideas are expressions of professional knowledge and experience rather than the "individual opinions" referred to by the architect, they should be spelled out in writing.

For the past eight years we have had a research group in our faculty supported by federal grants of more than $6 million for demonstration and research in early education. Before drafting these comments I talked with the director about any new facility or plant implications growing out of this research. I was interested to learn that there have been none not already known to specialists in the field.

What they are discovering is important to program rather than to facilities. Indeed, the long-established fact that children respond to strong bright colors prompted some planners to shy away from such choices and go to a very neutral gray-green. They want pacification rather than overstimulation, because many of the youngsters with whom they work have emotional problems. Other groups wanted neutral background so they could *control* stimulation. Noise control, too, is important to them, to the extent that they have peg board for wall surfaces, backed by fiber glass for further insulation. But as far as areas and space relationships are concerned, they have come up with no new demands. They assume that we remember that the children will spend considerable time on the floor and that we will remember this in planning the thermal environment and in selecting floor coverings.

To reach this point in the process means to me that the educators' group has fulfilled its role. Thus, the educator's greatest part has been in assembling and utilizing the kinds of specialists he needs for policy development, program planning, and preparing program recommendations. It remains for him to work with the architect to see that the pre-primary education message is clearly understood and that the design of the facility will support the planned program.

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[2] H. H. Waechter and E. Waechter, *Schools for the Very Young*. New York: F. W. Dodge Corp., 1951, pp. 4, 8, 27, and 40.

I have expressed only three ideas or conjectures:

First, pre-primary education is a coming professional reality in which our southern educators have had little training and still less experience.

Second, most of our local school systems in the region do not have staff personnel competent in the disciplines and areas that have contributions to make to the planning of the program.

Third, the administrator's skill will be measured by his ability to identify and organize a working team of specialists, and his efficiency in leading them through policy formulation and program planning.

Really, I have had only one idea. All I have said is that the educator's role is that of producing the ed specs for the pre-primary school.

ENVIRONMENT FOR LEARNING*

Ronald W. Haase, AIA

Partner, Hammel Green and Abrahamson, Architects
329 Park Avenue South
New York City

INDOORS . . . . .

Too many of our schools have the same homogeneous flat floor and flat ceiling throughout. Wherever you go in them, whether it be the principal's office, the home economics lab, or the janitor's closet, you are confronted with the same cream-of-wheat environment. The basis of our work in developing design criteria for early childhood facilities has been to break this dull pattern and encourage an architectural environment that is scaled to the various activities that take place within it. Generally these activities fall into three categories:

- *Group Activities*:
  - Stories
  - Singing
  - Dancing
  - Dramatic Play
  - Demonstrations
  - Dining
- *Active Play*:
  - Art
  - Water Play
  - Science Discovery
  - Block Play
  - Construction
  - Housekeeping
  - Dress Up
- *Quiet Work*:
  - Puzzles
  - Picture Books
  - Resting

For each of these activities the teachers and children should be free to seek out a physical setting that encourages rather than discourages, a "place" which helps to develop enthusiasm or responsiveness to their needs. Figure 1 is a diagram showing the schematic relationship of various zones or "environments" in the pre-school classroom.

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*Mr. Haase's presentation was based on slides illustrating the design research that his office has been involved with, largely for the U. S. Office of Education and the Office of Economic Opportunity. Included here are some of his remarks and sketches.

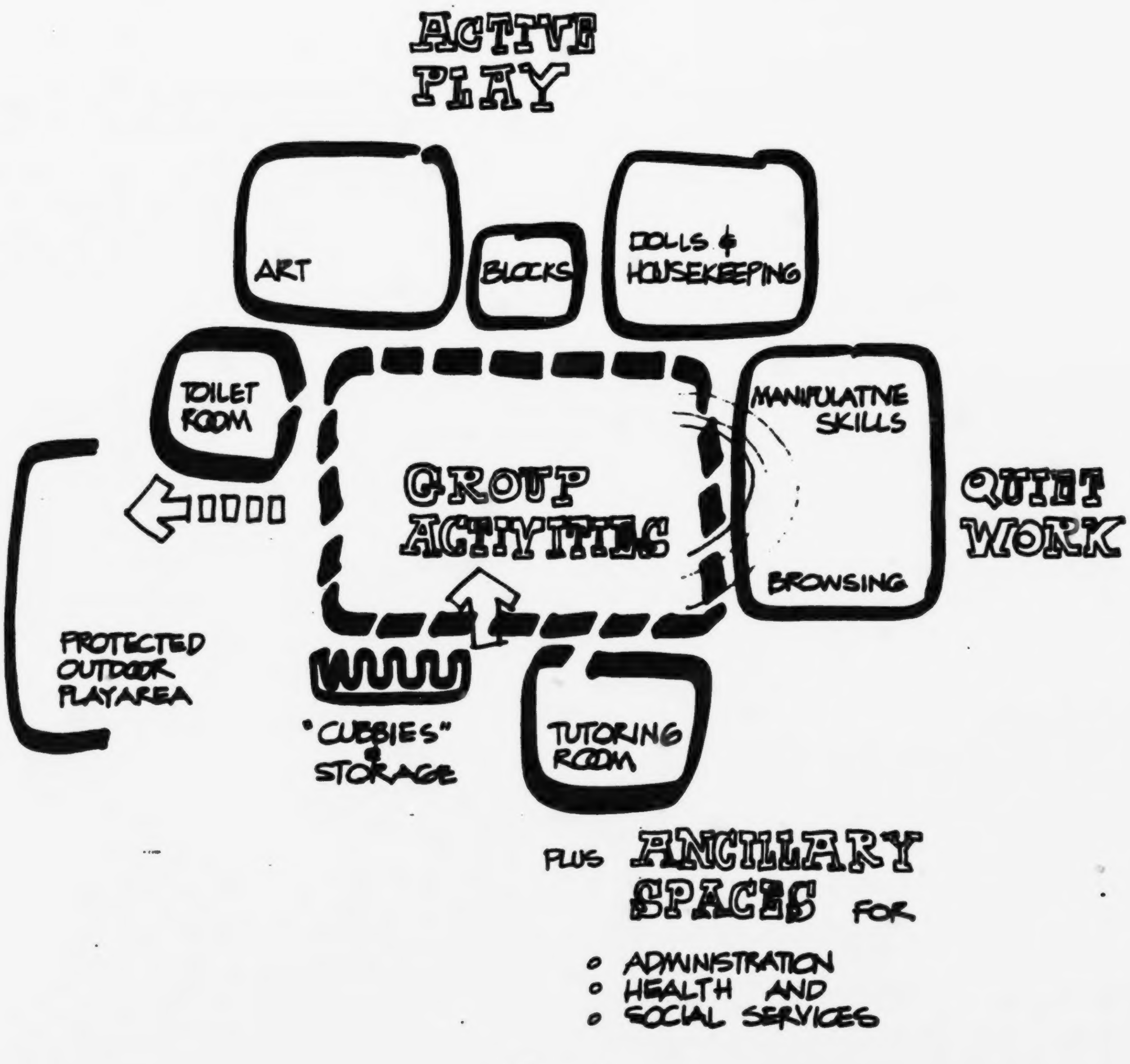
ACTIVE PLAY
ART
BLOCKS
DOLLS & HOUSEKEEPING
TOILET ROOM
GROUP ACTIVITIES
MANIPULATIVE SKILLS
BROWSING
QUIET WORK
PROTECTED OUTDOOR PLAYAREA
"CUBBIES" & STORAGE
TUTORING ROOM
PLUS ANCILLARY SPACES FOR
o ADMINISTRATION
o HEALTH AND
o SOCIAL SERVICES

Figure 1

Figure 1

Big booming spaces for Group Activities have hard floors that slap when you jump down on them and ceilings stretching high above. Flooded with light, bright and cheerful in its decoration, this is the extroverted space that invites boisterous actions and uninhibited participation in dancing, singing, and play-acting. At times when the teacher wishes to focus attention on a particular presentation or demonstration, strong light and color should be used to elevate the performance visually.

The place for Active Play should be more intimate in scale, taking advantage of a lowered ceiling or raised floor to diminish spatial presence and focus attention on the task. Lighting and colors should be cheerful, with the sparkle of natural sunlight where possible. Since this is the area for painting, water play, and construction, the floor should be a hard surface, easily cleaned. A quiet, cushioned tile for flooring or a roll-up carpet segment will reduce the noise.

The Quiet Work area should be a most comfortable and intimate space. Colors and lighting can be subdued, directing attention most particularly to the objects children are using in this area. A low ceiling and the soft quiet of carpeting should invite children to relax and enjoy the pleasures of a new puzzle or a favorite picture book. Sprawled out on the floor, curled up in a corner or window seat, the young child's mind and imagination are intent on what his eyes see and his fingers manipulate. "They learn through doing, touching, and trying things out."

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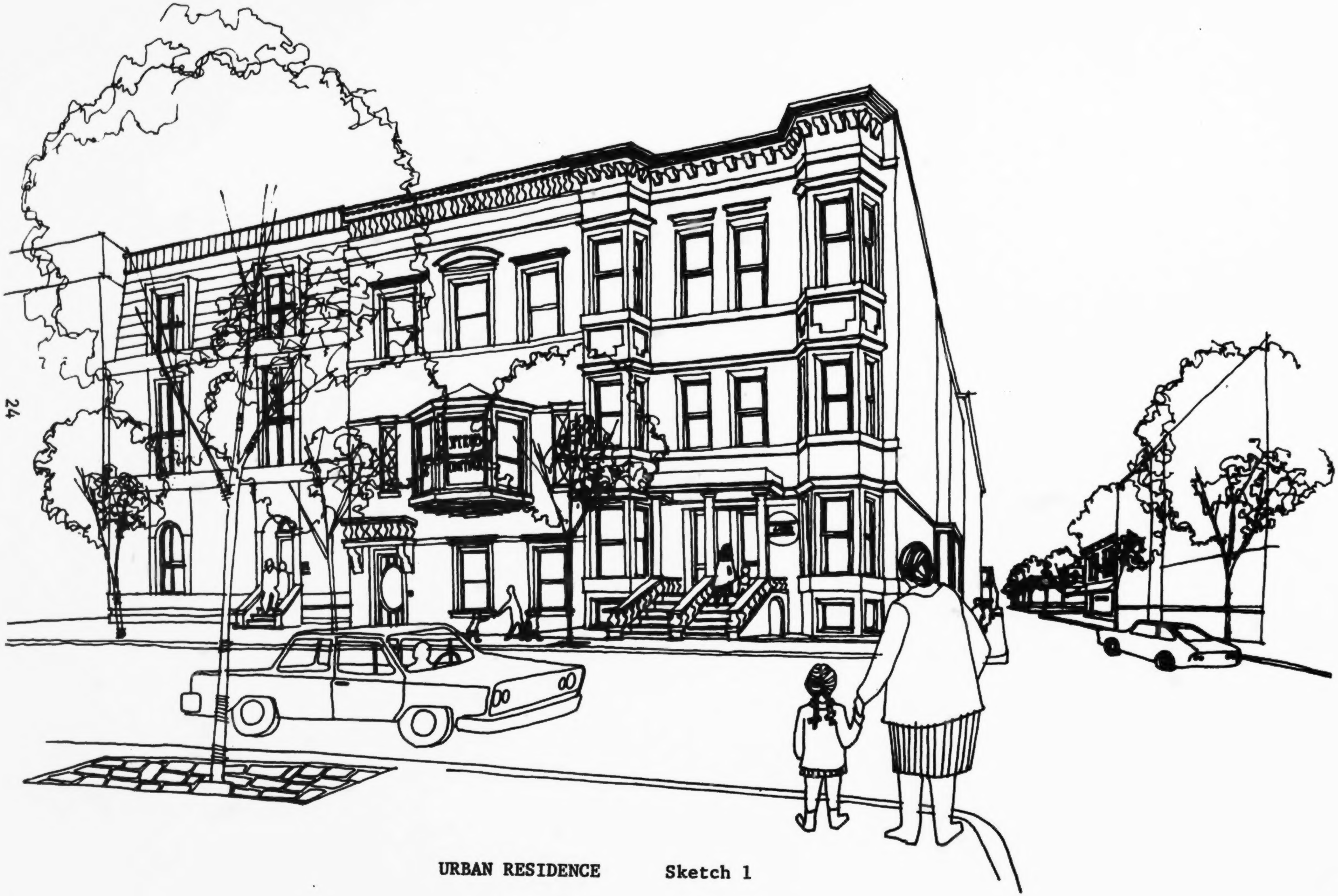
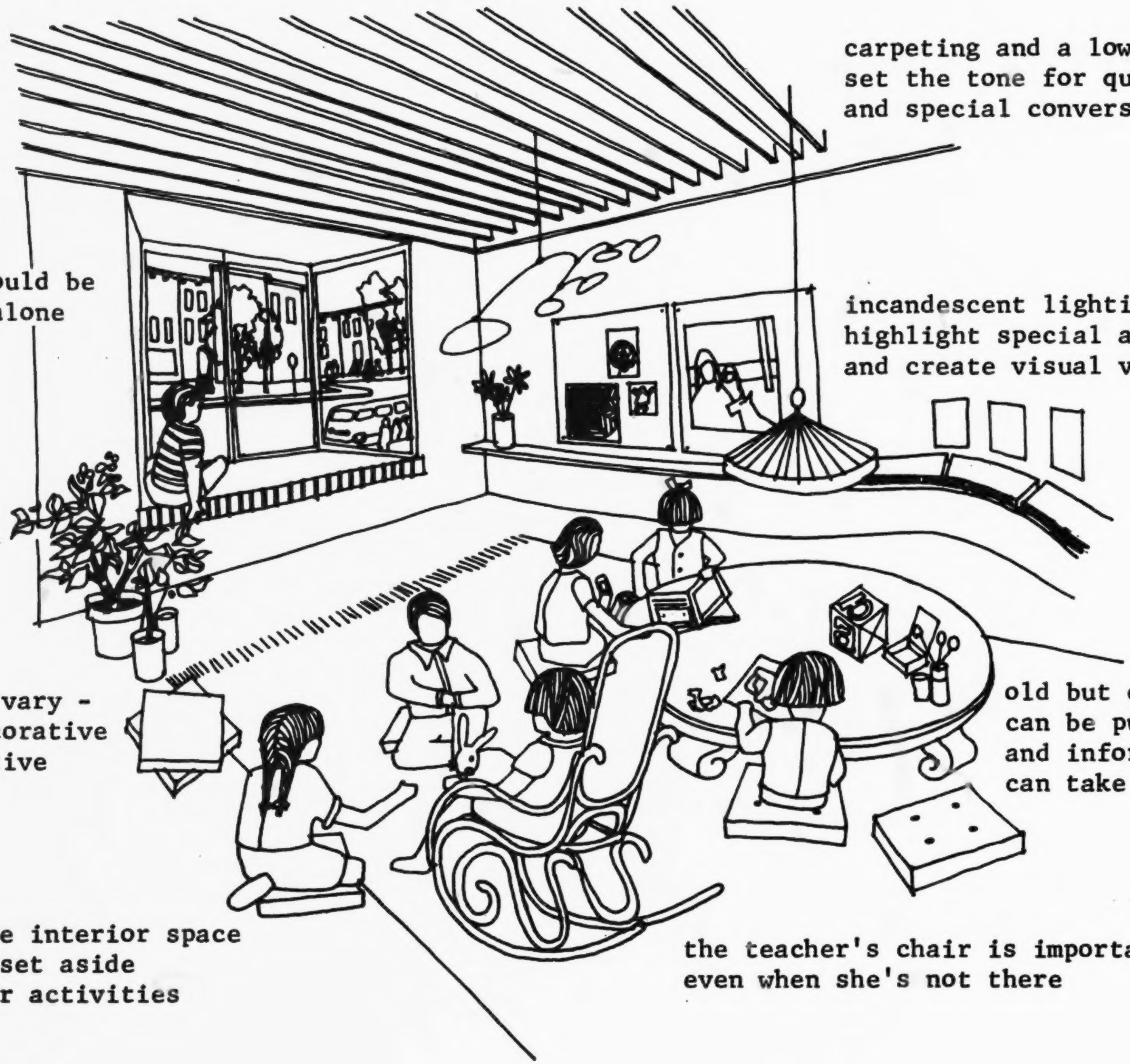
The following four sketches show how an urban residence could be converted into the proper setting for child development.



URBAN RESIDENCE Sketch 1



carpeting and a low ceiling
set the tone for quiet browsing
and special conversations

somewhere there should be
a place for being alone

incandescent lighting can
highlight special activity areas
and create visual variety

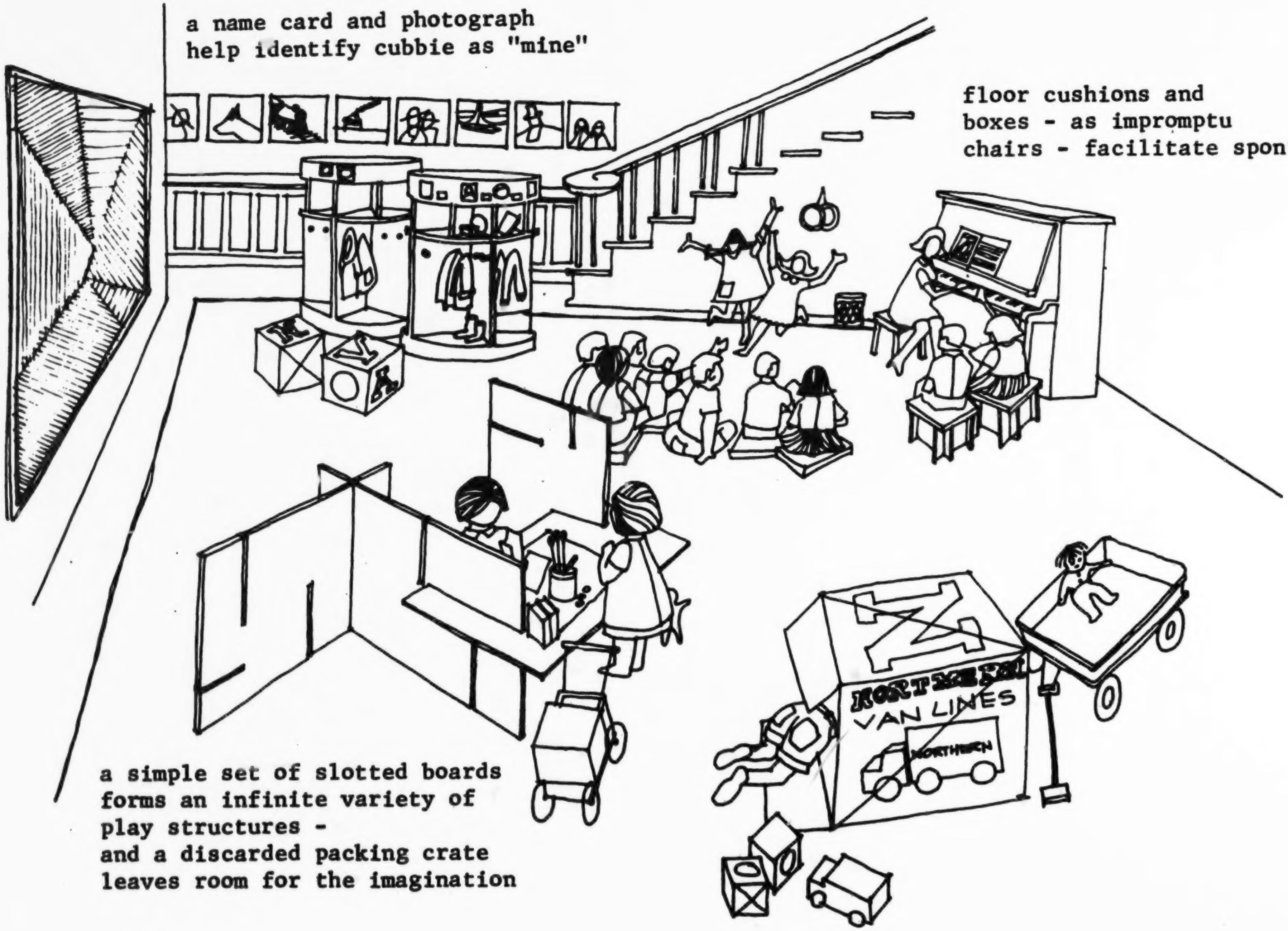
floor textures should vary -
carpeting used for decorative
accents is more effective
and less expensive
than wall-to-wall

old but durable furniture
can be put to new use
and informal floor cushions
can take the place of chairs

part of the interior space
should be set aside
for quieter activities

the teacher's chair is important -
even when she's not there

Sketch 2



coat storage - near the entrance -
should provide a place
for keeping private things

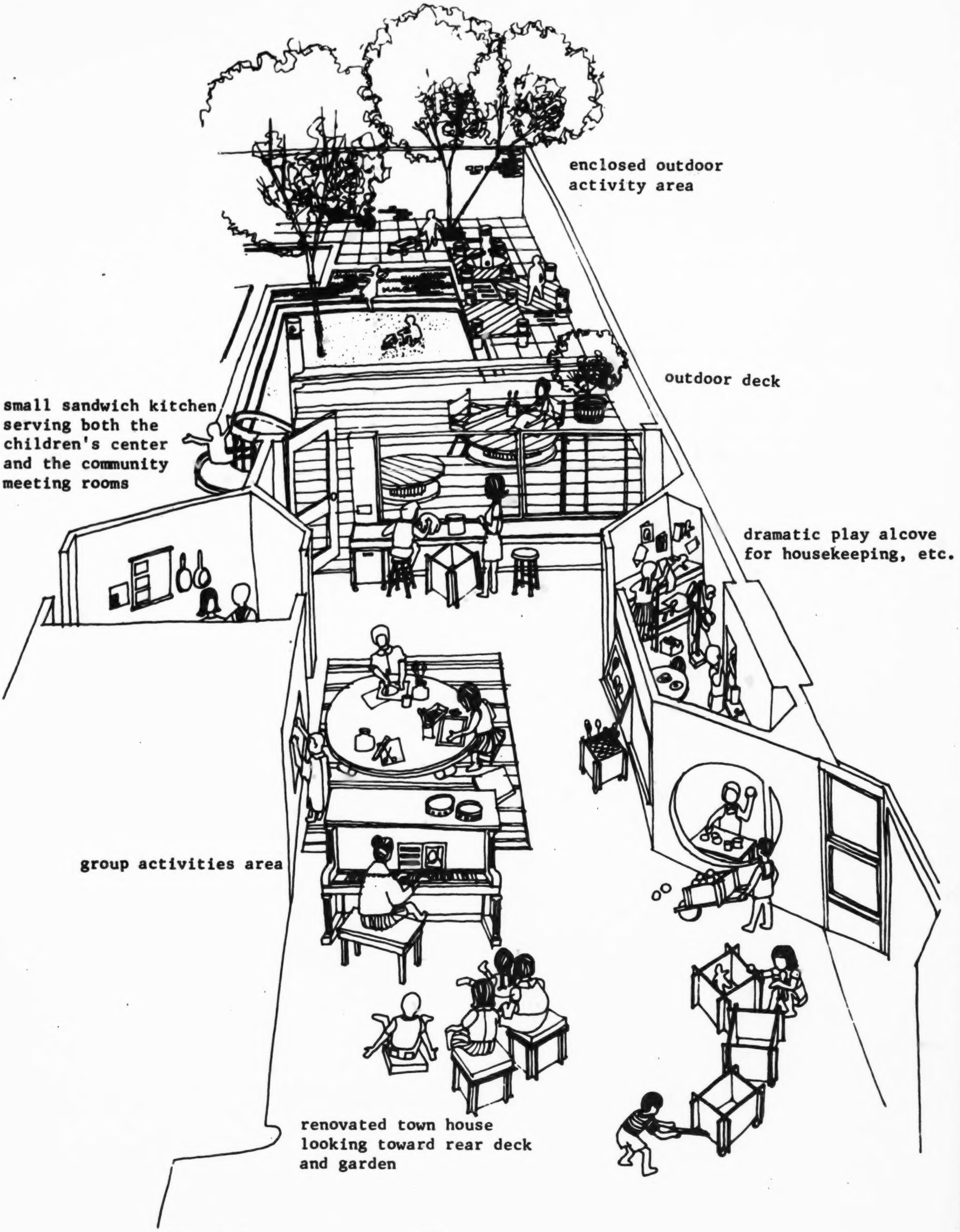
a place for group activities
where the high ceiling and sloping
floor encourage exuberance

a name card and photograph
help identify cubbie as "mine"

floor cushions and
boxes - as impromptu
chairs - facilitate spontaneity

a simple set of slotted boards
forms an infinite variety of
play structures -
and a discarded packing crate
leaves room for the imagination

Sketch 3


enclosed outdoor
activity area
outdoor deck
small sandwich kitchen
serving both the
children's center
and the community
meeting rooms
dramatic play alcove
for housekeeping, etc.
group activities area
renovated town house
looking toward rear deck
and garden

Sketch 4

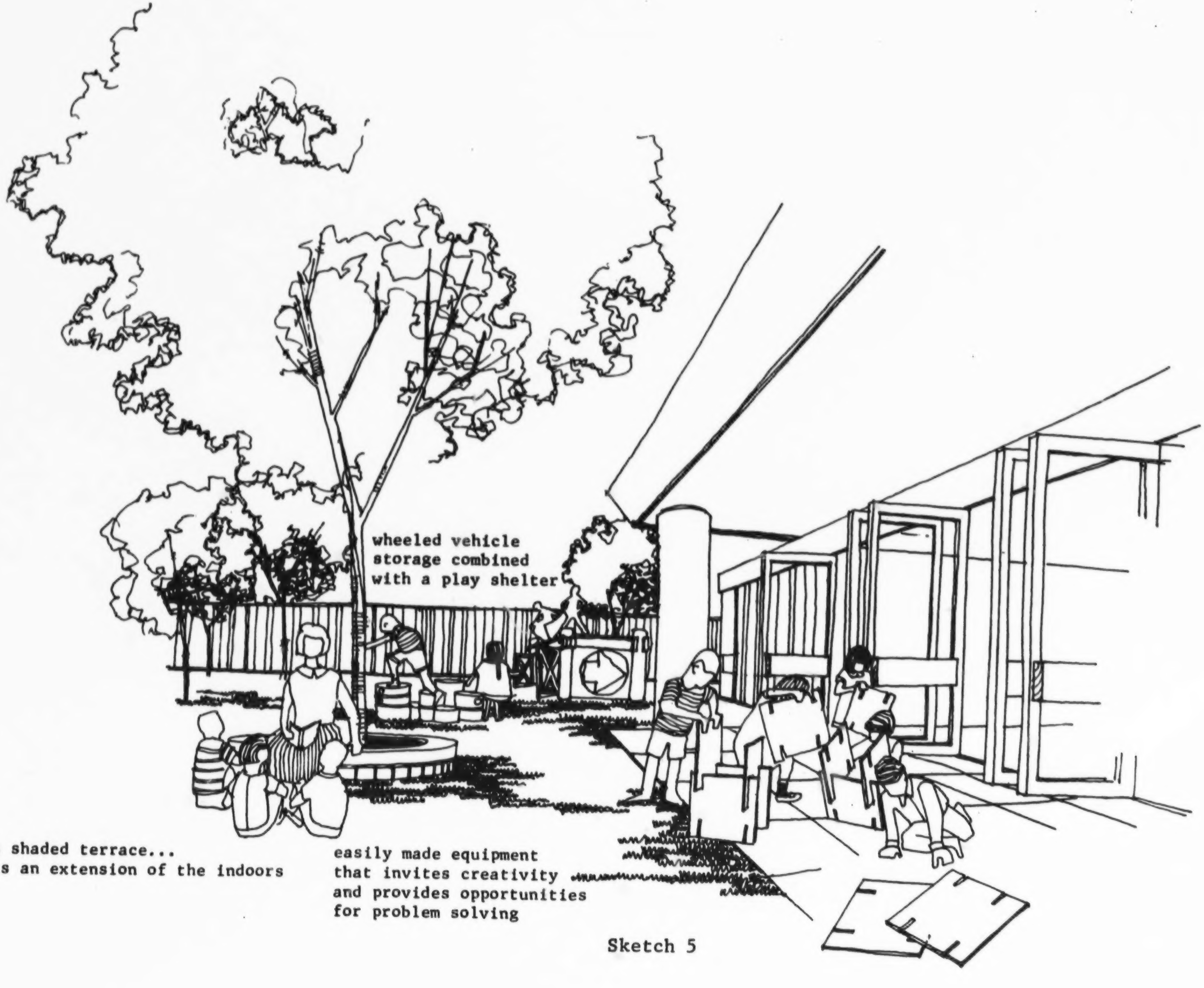
OUTDOORS . . . . .

Outdoor play areas should be readily accessible so that movement from indoors to out can be spontaneous, still providing easy supervision by the teachers.

Outdoor equipment should be abstract or neutral, allowing the child's own imagination to supply the details which transform a simple tunneled mound from an Alaskan igloo one day to a highway toll booth the next.

Climbing, swinging, crawling through, and sliding can all take place in a kaleidoscope of movement if the outdoor area is designed as a continuous playscape rather than as a collection of isolated objects, turn-taking devices, or dull single-use equipment.

The following 3 sketches show outdoor areas.

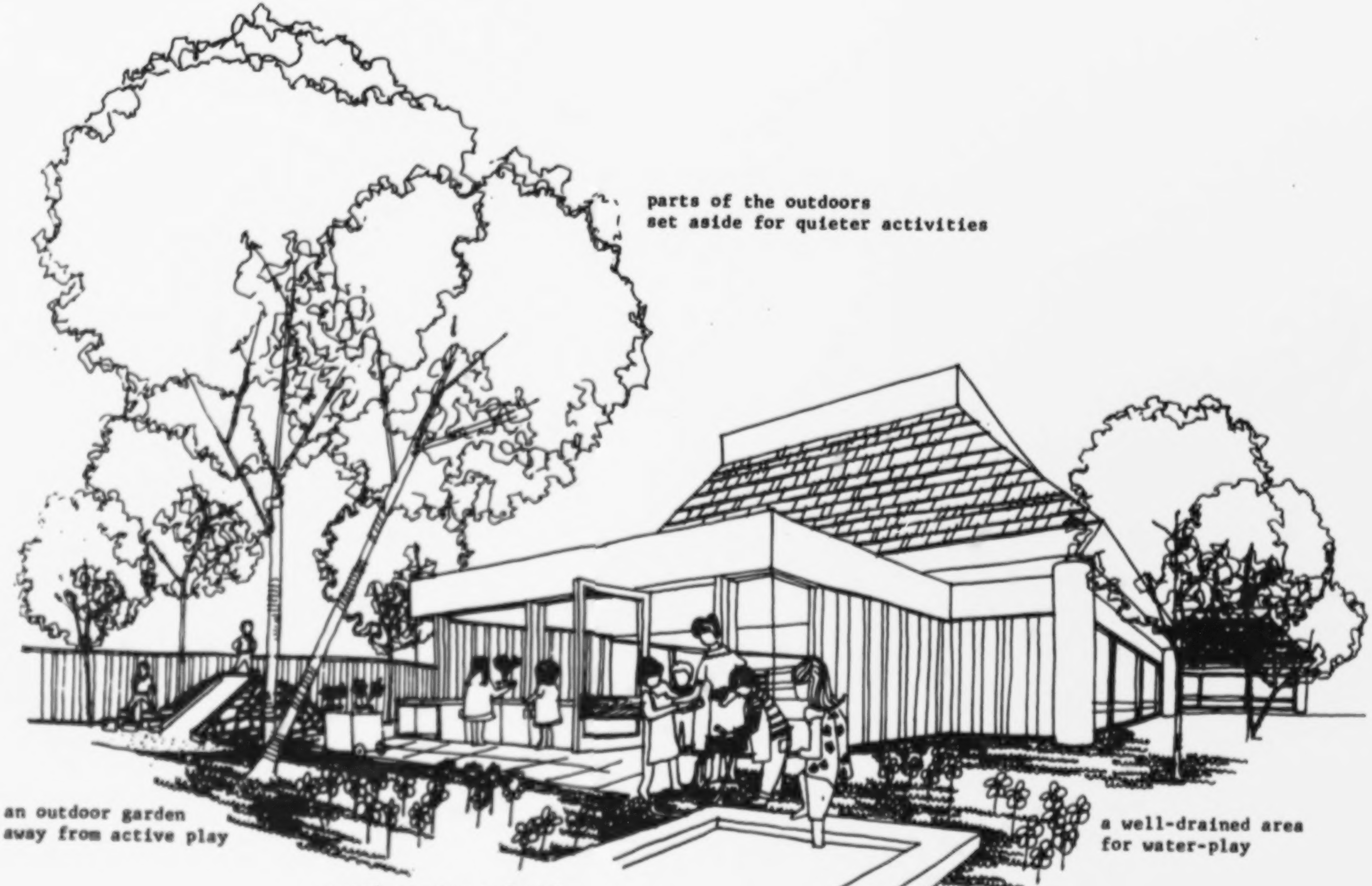


wheeled vehicle
storage combined
with a play shelter

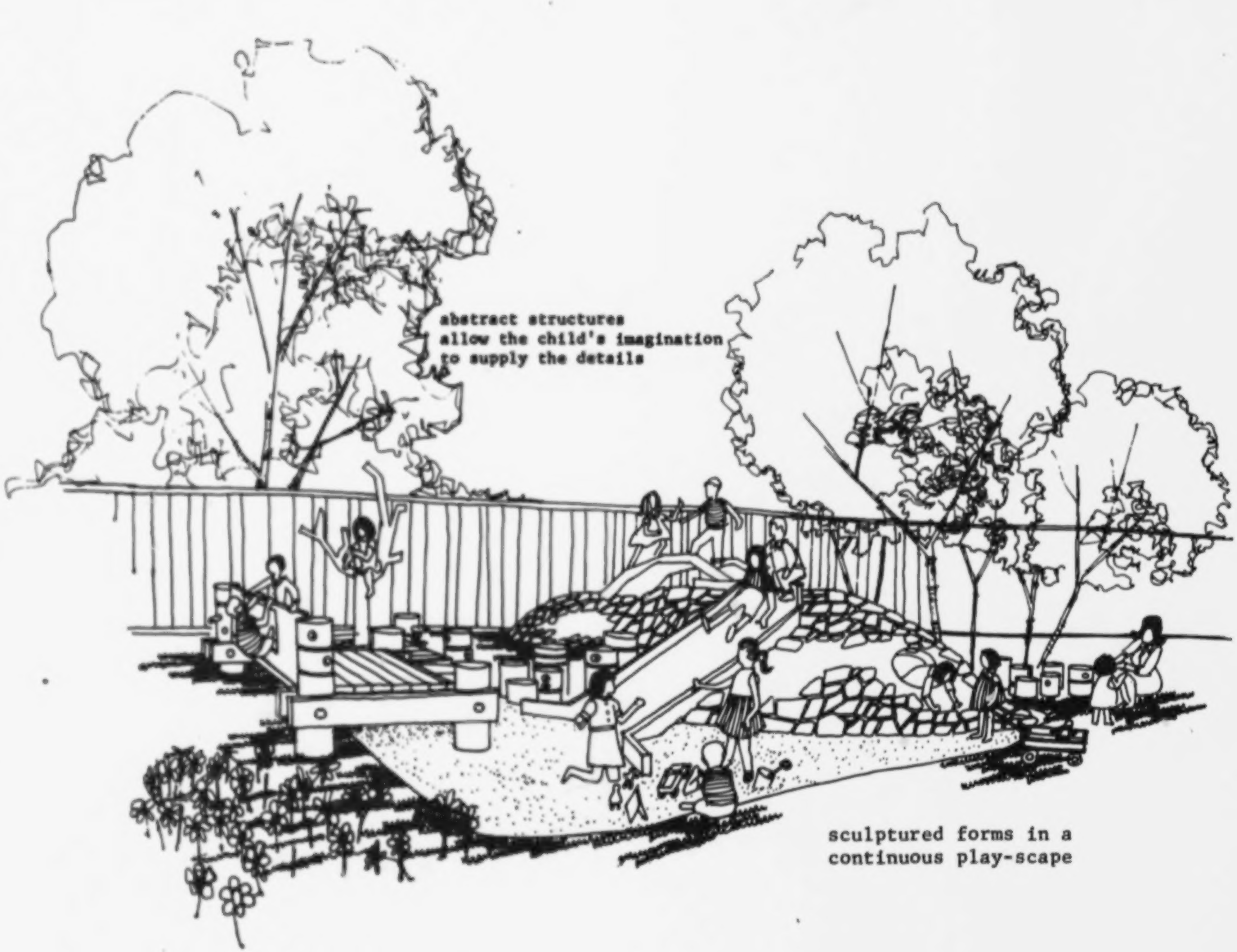
a shaded terrace...
as an extension of the indoors

easily made equipment
that invites creativity
and provides opportunities
for problem solving

Sketch 5


parts of the outdoors
set aside for quieter activities
an outdoor garden
away from active play
a work counter and sink
close to indoors,
on a hard surface
a well-drained area
for water-play

Sketch 6



abstract structures
allow the child's imagination
to supply the details

sculptured forms in a
continuous play-scape

Sketch 7

WHAT THE ARCHITECT NEEDS TO KNOW TO PLAN KINDERGARTEN FACILITIES*

John McLeod, FAIA

McLeod, Ferrara, and Ensign
Washington, D. C.

THE ARCHITECT needs first of all to know something about the activities that will go on in the kindergarten and the spaces that will be required. In order to plan the building the architect needs to know what kinds of spaces will be needed--wet spaces, dry spaces, quiet, noisy, large, small, indoor, outdoor, open and closed, high and low, and that sort of thing.

Activities need more than space. There are many things that go on in early education that cannot be as definitively spelled out as perhaps can be in the upper areas of education. Therefore you need to cover a great many things.

Activities need storage space. There is never enough. We are told with every job we do that we never provide enough storage. I don't know about providing enough, but there are different kinds of storage that people tend to forget about--dry and wet, open and closed, outdoor and indoor, tall and low, fat and thin, movable and fixed. The last two probably are most important, I think, in early childhood education--the movable and fixed. We invariably fix the movable ones and move the fixed ones, and then we have to rethink that through again. Naturally we ought to be told exactly what the kinds of storage are to be, if that is possible in a fluid space. It helps later when you are surprised by someone's telling you you did not provide this, or that, or the other. So the program needs to define the philosophy of storage, not so much by saying that a space 2 feet wide and 3 feet high is needed, but by explaining what is going to be stored there. Invariably the thin storage seems always to be where the fat storage should be, and vice versa.

Activities need to be related or separated. We in planning use the term order--things relate to each other or may work functionally and we hope aesthetically, but they do have relationships. I think this is something that programs tend to leave out--what the relationships are, what you are trying to do with the various things you are putting together. And this actually is the sum and substance of planning. If the program is not a reflection of what is going to go on, you will find the plan is not going to be a reflection of what is going to go on either. Fortunately with some of the more open planning that we are engaged in today, the situation is not as serious as it was when there was a cubicle to be dealt with. Nevertheless, a well-ordered plan (and this does not mean a regimented plan)--means simply that things are where they belong and where they are accessible.

If you do not plan you get disorder. Careful planning makes a difference. Good design is the difference.

/Next, some slides showing specific examples of planning were shown./

The new city of Columbia in Maryland is quite an undertaking. It is one of the new towns, planned from the ground up, and naturally the board of education in the county was interested in doing the same thing with elementary education--starting from the ground up. This new city presented the board of education with the problem of updating its thinking for its schools and a committee was set up to do research. The school system got some money from Educational Facilities Laboratories to study elementary education and its effect on facilities, and they came up with a new plan of arrangement educationally. Dr. Sowers, who is here at this conference, was one of the original participants in this research.

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*Mr. McLeod's presentation was illustrated by slides. Here are some of his remarks.

The open plan school illustrates the kinds of things that can go on in open planning that are rather difficult to do in the self-contained classroom concept. I think the impression one gets on going into one of our open plan schools is that everything is confusion. This has been the first observation of a number of visitors I have taken there. But really if you stay there long enough you begin to find out that the chaos, at least, is organized chaos and that very interesting things are going on all the time.

The resource center is often made the core of the whole operation. When it is carpeted a great deal of use can be made of the floor.

The activity area has clusters in different locations, defined more by color than by any actual walls. The divisions are made with movable cabinets, some of which are for hats and coats; some are shelves and some are enclosed storage spaces. However, they can all be moved and we have areas where we can store these movable cabinets and get the floor open. You might be interested in some reactions I have heard. In the next generation of these schools with open planning that we are doing in Columbia the authorities felt that the kindergarten area should have the possibility of being divided up, rather than being wide open. This surprised me, but we accept their feeling that this ought to be done. They wanted the division in some cases by means of folding partitions. It will be interesting to see how far they go with that device--it may be that we will get right back to the cubicle again with fixed partitions. Who knows? At least they are going through the process of finding out. This concept of partition is purely in the kindergarten-primary area. The rest of the school seems to be well satisfied with being open; in fact, I think we are making them more and more open as we develop these plans.

There are various kinds of things you can do in open spaces. Appropriate signs and other movable equipment can be used for teaching the kids traffic safety.

It is convenient to have rolling coat storage.

The library-resource area has some informal seating. What walls used are magnetic--actually metal partitions, and magnets stick to them so they can be used in almost any way. About half are chalkboard and the other half are used for display.

We have one open plan school in Hagerstown, Maryland, with a somewhat different concept. The early childhood education cluster has its own indoor-outdoor play space. The rest are wide open clusters, with sides left open for expansion in the future.

We found out that we ought to separate some spaces with glass partitions, but most of it is open space. The resource center is in the center of the complex, with the teachers' working area and the educational spaces around it.

The early childhood education center in Hagerstown is one with a gimmick. Dr. Snowberger, who is here, is dean of the junior college in Hagerstown. This early childhood center is a combination project of the Board of Education of Washington County and Hagerstown Junior College. Actually, at the present time they are both run by the same board; so there is a relationship which works very well in that they can carry on joint activities. The money became available for this project as a teacher aide training center--a program which the junior college is initiating. So this center actually has a double purpose--early childhood education and teacher training. The added ingredient here is an ell for the teacher aide training area. We have some one-way observation glass between the main area where the children are and the student teacher training area. There is direct access to the play area from the toilet rooms. We located a big storage area in such a way as to be able to open it up and go through in case any addition is desired. The outdoor play area is directly off the covered play area, and is bounded by a stone wall. Stone is one of the things we have lots of in that area and we manage to use some of the native stone right out of the ground in some of the buildings. It has a distressing property of turning a little white with the years, but in the first ten years or so it is a very interesting stone, and by the time it is ten years old people don't notice that it has changed color.

We bumped the ceiling of the big room up just for the sake of changing the scale between the low perimeter area and the high central area. We even have flying kites. We tried to differentiate this building from the others on the junior college campus, which use a very small amount of stone and are usually of brick masonry. We felt that if we made this one all of stone with some wood features in it we would change the scale and the character and yet it would have somewhat the same lines as the general junior college buildings.

In the interior the glass area is absolutely due north; so we probably are not going to be troubled with direct sunlight in that area, and this relieves us of a lot of problems. The smaller rooms are off to the side, and one has a fireplace which we hope is going to work. There is a large area where high things can be built. This changes the scale from the low perimeters into a large high space with some overhead light.

THE PLANNING PROCESS

Marvin R. A. Johnson, AIA

Consulting Architect, Division of School Planning
North Carolina Department of Public Instruction
Raleigh

THE PLANNING process is a combination of communication and creation. In education, planning is continuous, or ought to be. Education may have had a start at some time, but it is not scheduled to terminate. In education, we don't say that at the end of ten years we will be through educating. We should see the planning process as a unity, a continuum, not as a short-term emergency measure to be resorted to when all else fails. Planning is looking ahead to the future and to make it better than the past or the present.

For convenience, if not for the sake of reality, I will talk about educational planning, that is, planning for education, and also about planning for educational facilities, which is a part of educational planning and must be seen in that context.

Educational planning must deal with the total educational service, from pre-primary to post-doctoral, to continuing education. This service must be seen in its relationship to and in coordination with other social and community agencies and services: health, social rehabilitation and welfare, cultural, religious, recreational, plus commercial, industrial, public and private--services affecting human growth and development. Educational planning is inevitably intertwined with community growth and economic development and change. Educational planning can no longer take place within the narrow confines merely operating a school organization and the various programs that are directly related.

The traditional public education service has been granted, through law and through custom, specified authority and responsibility for the education of a segment of the population. In its educational planning this public educational establishment must determine continually the educational needs of the people it directly serves. Then it establishes a system or resources to meet and fill these needs--by providing teachers, materials, services (such as transportation, food, communications), facilities (sites, buildings, equipment), and operation and maintenance programs to maintain these resources, and a means of administering the system. It must continually evaluate the effectiveness of the system.

Planning of facilities is just a part of the total pattern and needs to be seen in this context. By facilities we mean site and grounds, and buildings and equipment, which also includes communication and transportation capabilities. The facilities are the setting, the place, the physical environment, including some of the tools for learning. Not all these facilities need to be owned by the school administration.

In a brief and oversimplified way, let us look at the function of planning facilities for early childhood education. Let us assume a school administrative unit or school district or community which does not now have a pattern for pre-primary education; that is to say, our hypothetical community has the conventional grades 1-12, although it may have some direct or indirect relationship with adult education programs, including community or junior colleges. A first step is for the community to become fully aware of the vital need for high-quality programs for all early childhood years.

The educators and school officials dutifully and diligently inform themselves on the importance, the nature, and the characteristics of good programs in early childhood education. The administrators are willing to exert the proper leadership and to fight the necessary battles for support: all this because of a firm conviction of the importance of early childhood education. They persuade the lawgivers and budgetmakers to provide proper legal framework and adequate financial support to bring into being a pattern of kindergartens for 5-year-olds.

The public is informed in order that the citizens will know what to expect, not only about what early childhood education will do for young children, but also what financial support they may have to furnish. Principals and teachers in existing schools in the community must alert themselves and bring themselves up to date on what is a good kindergarten or nursery school. They involve parents and the community leadership; they evaluate data to determine the number of children to be served, and the number of teachers and other staff personnel to be hired. They do this and take all other appropriate steps to develop a suitable program of early childhood education for their community.

Places and rooms are needed to shelter and accommodate the young children. Do the school officials remodel, renovate, build new, or do some of all of these? They consider a range of alternatives. They study the communities within their district, and allow for modifying the kindergarten programs to suit a variety of neighborhoods or residential areas. They study locations, in terms of the relationship of kindergartens to the remainder of the school system and in respect to other child care and development centers already in the communities.

The school officials hire architects, and engineers, maybe landscape architects; they do this because the law says to, or because they want to, or both. Maybe they retained these design professionals early enough to involve them during the data-gathering and program-forming period. It can be useful to the designer to be involved in much of the early discussion, if he is agreeable to enter the scene so early. At whatever point the design professional is brought into the process, it is time for the educators to extend their communications to the architect and his consultants.

The school people prepare the educational specifications, which they may have started before the architect was retained. Educational specifications are the communication from school people to design people. Are they necessary? Only if they help, and if they are done well, will they help. But writing educational specifications requires high-quality leadership, which usually must come from the school's administration, often helped by competent consultants. Usually ed specs are largely verbal, but illustrative material can help communicate.

Educational specifications can help the school people and the community sharpen up their communications, because preparing ed specs presents a fine opportunity to talk about education in terms of tangible results and purposes, to test each other on new ideas and sound traditions, by focusing on the needs of students of the future without being too defensive about present and past practices.

Ed specs, when well done, are the combined expression of a well-selected assortment of people, directed and coordinated by competent leadership. Ed specs say what should go on in the school, what activities are expected to take place. Ed specs should not be too descriptive of what the facilities should look like. They are meant for the design professionals, to guide, perhaps to direct them, but certainly to stimulate and to challenge them.

After the ed specs are complete, and approved by the local board, they are transmitted to the architect and engineers, who study the document very carefully, and respond to it, not with a quickie sketch plan, but with an architectural program. This program is a step toward fuller understanding, a statement of the designer's comprehension of the specs. It takes a bit of time and effort for the educator and architect to understand each other, to speak each other's language.

The designers add to the mix certain restraints and limiting factors: health and safety codes, budget considerations, site characteristics, approval agencies and their guides, traffic, climate, orientation.

When everyone pretty well understands each other, the architects prepare schematic design drawings and accompanying documents "illustrating the scale and relationship of Project components for approval by the owner," as the AIA Owner-Architect agreement says. The design people also submit an estimate of probable cost.

Changes are made, if necessary, and plans are resubmitted. If all is well so far, the architect carries the project through the next stage, "Design Development Phase," during which all major design decisions are made. Now drawings and other documents, maybe three-dimensional scale models, "fix and describe the size and character of the entire project as to structural, mechanical and electrical systems, materials and such other essentials as may be appropriate." Again a probable cost statement is made. Approvals are obtained from school officials and all reviewing agencies.

Now comes Phase 3 of the architect's basic services: the Construction Documents Phase. These documents include the working drawings, the specifications, and the general and special conditions of the eventual contract; they are intended for the bidder and the builder, but they also inform the owner about what has been planned.

These documents are communications, describing everything about the proposed project, to direct the bidder what to bid and the successful one what to build. Probable costs are again estimated. When the documents are complete, they are reviewed by the local board, the code enforcing agencies, and perhaps by state and federal agencies.

Plans are distributed to interested builders, who on a set day, at a public place, submit bids to the school officials for opening and review, and for eventual acceptance.

The Construction Phase--the Administration of the Contract--comes after the successful bidders have been determined. They commence work on the basis of contracts signed by the contractors and the board.

During construction, under one of several possible arrangements, the architect and engineer periodically inspect the project under way; they certify payments to builders and provide other services. The owner pays--and hopes.

That is an oversimplified description of the conventional processes of planning: the first steps of determining educational needs, the communication to the planning professionals, the preparation of architectural and engineering plans, and the construction period. Following this, the educators and planners should prepare the teachers and other users for occupying the new facilities. Then, immediately and for years to come, all will evaluate the effectiveness, the success, the failures of the facilities that have been provided.

All educators and planners do not agree that the planning process needs to be so complex. Some hold that the process as I have described it is unnecessarily time-consuming and that it is unrealistic to involve so many people. Furthermore, the demands to cut it short, hurry up, slash the time schedule, reduce the budget, often harshly diminish the educational planning and activity and unduly rush the designers' processes.

What I have said so far is what the books say, what the conventional rules are. I have not mentioned specifically all the necessary interaction and coordination with local municipal and regional planning offices, utility companies, street and highway departments, water supply and waste disposal services, transportation companies, or with possible sources of funds, such as the state, the feds--EDA, ESEA, NDEA, SAFA, recreation and conservation services--or foundations.

In the planning process, some of you might wish to emphasize a multi-discipline approach to include specialists from such fields as the social sciences, especially sociology, economics, and political science, and the behavioral sciences. Others of you would like to add the advantages of such techniques as the Critical Path Method (CPM), or Program Evaluation and Review Technique (PERT), or the use of computer capabilities in the planning process as well as in the production of plan documents.

Would you consider what I call action-planning, in which the school plant is constructed intentionally to be only about 80 per cent complete? Then the users--teachers, staff, parents, students--complete the remainder, with the help, counsel, and necessary control from school officials, architect, and engineer. This approach allows the users to create their own environment which is then always changing and never complete.

Certainly the future cannot be like the present: building construction technology is changing; the architect's and engineer's roles will change; the educators' decision-making patterns will be different. Although many needed social, economic, and political changes are coming too slow, many are happening too fast to allow for highly-structured linear planning processes.

Maybe, for the present, the most important and useful conditions to provide the best in facilities for early childhood education are these:

Board, superintendent, and staff, directors of instruction, supervisors, principals, teachers and assistants, state agency officials, should

- --understand the nature of the pre-primary children.
- --be aware of current knowledge and research in early childhood education and human development.
- --have respect for the individual nature of each child.
- --accept a variety of possible options on organization patterns, age-group combinations.
- --recognize the relations with health, cultural, social rehabilitation, and other services and enterprises that are concerned with young children.

To plan facilities, owners should select and engage an imaginative, courageous, and talented architect, with engineers and landscape architects to match, the best they can find, who have a sincere respect for young children and a special sensitivity to man's encounter with the environment.

Such a combination of competent people will work out their own best processes to plan the kindergarten and other early childhood programs, services, and facilities.

Is it necessary to go through a complicated and lengthy process to provide some kindergarten facilities?

Where no kindergartens, or other early childhood programs, now exist, I think it vitally important that extensive and careful preliminary study and exploration take place. For if we construct the program and facilities for kindergarten in the image of the conventional first grade, then we had better not get into early childhood education now. It is my hope that the introduction of early childhood programs into the existing schools, which now begin with grade one, will influence, affect, change, and revitalize the programs and processes of the primary grades which follow.

ORGANIZING FOR EARLY CHILDHOOD EDUCATION:

THE PARENT-CHILD EDUCATIONAL CENTER

Dr. Harold E. Moore

Professor of Education, Arizona State University
Tempe

In March 1967 the Reader's Digest said:

> A new idea is about to be tried in this country, concerning a better way to live. It's called the New Town. It should be called the New-and-Different Town: the town designed to cut down the grind-and-bore part of living, like commuting, traffic jams, parking problems, driving miles for a loaf of bread. It should leave you more time and energy to be yourself and do what you want to do.

Litchfield Park, which lies sixteen miles west of Phoenix, Arizona, is a rapidly developing example of man's growing capability to control his living environment. Here a planned city is taking tangible form, a city estimated to reach 100,000 population. The area involving the three affected school districts, and including the new city, may have at saturation a population approaching 300,000.

Property management and development is the responsibility of Litchfield Park Properties, Inc., a subsidiary of Goodyear Tire and Rubber Company. The city planning has been done by Victor Gruen Associates. A feature of the planning is neighborhoods undisturbed by the main traffic arteries, coordinated with and related to the community services. Basic to the community planning and a unique feature of it is the concept of education as the coordinating factor in community life. This is in recognition of the school as a primary and major social institution.

Litchfield Park will include and/or touch upon traditions of the already established communities of Litchfield and nearby Avondale as well as bring together the varied traditions of the families coming from many different parts of the country as the new city develops.

The planned city concept furnishes an opportunity to synthesize these varied traditions into a new way of life. This promises to be a situation favorable to the launching of educational innovations to meet new needs. The opportunity is further enhanced by dedication of the city planners and developers to the idea that education is a way of life, with the school the center of community activity.

The Parent-Child Educational Center idea has been developed as the beginning unit of the public school system in the new city to serve parents and children from infancy through seven years (or thereabouts). The salient feature of the program is the concern with children from birth, and the mutual involvement of parents and the professional staff in providing for their developmental well-being and for the increasing effectiveness of parenting skills.

Recognizing the mental health implications in such a program, Litchfield Park made a request to the National Institute of Mental Health for funds for planning purposes, and the request was granted. Specific work on planning began June 1, 1967. Previously the Educational Facilities Laboratories, Inc., had provided support for developing facilities for such a program.

Basic to the Parent-Child Educational Center idea is the conviction that parents who are concerned with the developmental well-being of their children will involve themselves willingly in planning and carrying on a program therefor. There is the further conviction that the totality of a child's living is properly the concern of both parents and educational workers. Therefore, the Parent-Child Educational Center is thought of as being within the structure of the public school system. As such it is a part of the Public School Continuous Growth Program (as the public school program is designated) although carried on in the neighborhood unit.

The mutual involvement of parents-children-staff, a distinguishing feature of the Parent-Child Educational Center, is the beginning of continued similar involvement in the Continuous Growth Program of the middle and later years of the public school.

A Parent-Child Educational Center is a coordinating activity purposing to serve both parents and children from infancy through seven years (or thereabouts) and is carried on through the mutual initiative and involvement of parents and professional staff.

The basic purpose is threefold: to be of service to parents (1) in providing for the developmental well-being of their infants and young children, (2) in achieving ever-increasing effectiveness in their parenting skills, and (3) in providing to young children the beginnings of education appropriate to their needs.

Developmental Beginnings

Probably there is no period in a child's life when learnings stand out with such dramatic clarity as during infancy and the early years of childhood. Baby helplessness gives place to skill in reaching and grasping, and in voluntary movement of the body--sitting, standing, and walking. Baby babblings give way to recognizable speech sounds. Gradually words emerge and are correctly identified with the objects or activities for which they stand. Single words become linked into two- and three-word combinations that convey the child's ideas and feelings or express his wonderments. In time these lengthen into sentences. All the while speech patterns have been in the making.

As the child speaks there become more and more clearly evident the knowledge and information that he has been gathering. His questions of "WHY?" bespeak his search for understanding.

Even more evident than specific learnings such as these is the unfolding of individual characteristics that identify each child as a person unique in his own individuality.

It is in infancy and early childhood that the foundation is laid for all of a child's school learnings. When he comes to school at the usual age of five or six, he brings with him speech patterns well set. He brings with him an ever-increasing vocabulary with functional use of words that denote number, space, distance, time, quantity, and the like, though the concepts that the words denote are vague and as yet unclarified.

He brings with him a concept of himself and of other people, though those concepts are largely unformed in words. He has had varied relationships with other people (again unexpressed in words); basic concepts affecting all of his relationships with people have been in the making, and these he brings to any new relationship. Likewise skills have been in the making, skills that have to do with his care of his own needs, with his participation in the family living, with his handling of objects and materials.

Desirability of Developmental Continuum

Naturally it is the parents who are most intimately concerned with all of these details of the development of their child. It is the parents who are daily with him and who recognize as no one else can the changes that take place. It is the parents who provide the conditions that make for optimal development as it pertains to the physical details contributing to healthful living, to the feeling tone given to the living, to the social contacts included in it, to the relationships within the family, and to the guidance given in all the learning as it goes on.

In short, it is the parents who, more than any others, are closest to the child, and the ones most vitally concerned with his developmental well-being from the time he is born (and before) on through each year of childhood. They are deeply concerned with their own parenting skills. They gather information from one source and another relating to the myriad details of their children's care and up-bringing. They develop skill in handling those details. They meet problems and search for the solutions to them. They develop the kind of home life that comes natural and that expresses the values to which they hold.

Traditionally, the school has not concerned itself in the developmental well-being of a child in these early years, nor in more than a casual way with the learnings that have taken place in the years before his formal school entrance. Nor have the everyday concerns of parents incident to the care of their child during the years before school been a matter to which the school has customarily given attention.

But neither the learnings of those years nor the concerns of parents during them can be ignored if the school is to give more than lip service to the idea that living for every child should be a continuum of integrated experience, development, and learning, fitted to him as the individual that he is.

Accepting this concept of the desirability of developmental continuum, parents logically look to the school to work with them in providing for it. This points to the extension of the school's interest in the children in a community backward to the years before the traditional school entrance age, back to the years of early childhood, back of these to infancy, and, when parents so desire, to the prenatal period.

This leads to the planning for a Parent-Child Educational Center as a basic beginning unit of the public schools of Litchfield Park.

THE CENTER: AN ACTIVITY

The concept of the Parent-Child Educational Center as the beginning unit of a public school has grown out of the above-mentioned considerations. As defined in the opening paragraph, a Parent-Child Educational Center is a coordinating activity purposing to serve both parents and young children (from infancy through seven or thereabouts) and carried on through the mutual initiative and involvement of parents and professional staff.

The Parent-Child Educational Center is defined as an "activity" rather than as a place, since the daily living of parents and children is essentially active and mobile and it is this daily living on which attention is focused.

In defining the Center as an activity, we use the term in a collective sense as encompassing such phases of the total daily living as may be of concern to the parents at any given time and as may be of immediate significance in their children's developmental well-being as seen by parents and professional staff.

In speaking here of "concern to the parents," the word "concern" is thought of as connoting interest in a child's general well-being rather than indicating anxiety about a so-called problem for which the parents are seeking a solution. This significantly broadens the base of the Parent-Child Center as an activity serving parents and their children, since the base becomes an interest in total well-being in all of its phases rather than narrowing it to problems, although the handling of such problems as may arise is properly a part of providing for total well-being.

Mutual Initiative and Involvement

The extent to which the above or any other aspects of their child's development and learning shall be served through the Parent-Child Educational Center properly lies with the parents in individual families. By definition and intent a Parent-Child Educational Center functions "through mutual initiative and involvement of the parents and the professional staff." It is only through such mutual initiative and involvement that a Center can be carried on.

Here it is implied (and intentionally so) that initiative may come from either parents or professional staff. It is natural that some services known to be generally useful to parents of young children should be set up and made available to them through the initiative of the professional staff who have been trained in specialized fields. It is equally natural that other services should come about through parent initiative and/or by parent request. "Services" as here used should be understood to include not only tangible aid of one kind and another, but likewise the gathering of pertinent knowledge and information, the opening up of areas of thinking, and the suggesting of ideas along one line or another.

In the matter of parent involvement it is to be expected that there should be varying degrees from the beginning, and from time to time, depending upon parent interest, family situation, personal health, and other individual considerations.

The mutual interest and involvement of parents and professional staff point directly to the basic means by which a Parent-Child Educational Center can function as an activity coordinating effort, capabilities, resources, interests, services, and ideas. This provides the basis for drawing in other resources to serve specific purposes.

The Approach

The Parent-Child Educational Center as above described is an innovative approach to education. It is no attempt to push the customary school learnings downward. It is rather a turning of attention from outlined learnings to the child himself who as a living developing individual is doing the learning. The basic intent is to so understand each child's individual capabilities as to provide--with ongoing continuance--for the learnings that fit those capabilities as they become evident.

Thus parents and professional workers of the Parent-Child Educational Center are concerned with individual development and individual learning as they proceed for each individual child from the days of dependent babyhood; through the days in which he gains facility in body movements, in speech, in use of ideas, in all aspects of development; on to the days one customarily thinks of as the time to "begin school." In the Parent-Child Educational Center plan, school days come about naturally, sooner for some children than for others, with more structured learning for some than for others. The school experience comes for each child at the time that befits him as an individual and with continued mutual initiative and involvement on the part of parents and professional staff in providing for his developmental well-being.

The approach in a Parent-Child Educational Center to school learnings is no haphazard laissez-faire approach. It is a thoughtful considered approach plan to begin in infancy. It takes full account of all the learnings that have been going on, with recognition of the parents' role as teachers from the time the child is born. It looks upon the early learnings with awareness of the significant relationship of those of the baby and little child to the ones commonly thought of as "school" learnings.

Both the early learnings and the school learnings come within the structure of the public school system of which the Parent-Child Educational Center is the beginning unit. While the point has been emphasized that the Parent-Child Educational Center is an activity rather than a place, there is of course a location which serves the professional staff as home base--a place where resources for parents are available, where parents and children come and go for one purpose and another, and where a "school" setting is provided. While the Parent-Child Center is an integral part of the public school, it is a neighborhood unit with the pathway system of the newly planned city so designed as to make it accessible with no crossing of traffic lanes.

Individually Oriented

Since learning is conceived of in its individual continuance, the usual school grade-placement is non-existent. There is no dividing of the children either into groups according to age or for the accomplishment of designated segments of learning. This does not imply, however, that attention to the children's school learnings is either casual or incidental. These learnings are not left to chance nor are the children left to happen upon them as best they may. No. Through "mutual initiative and involvement" school learnings are definitely planned for, thoughtfully stimulated, and carefully fostered and nourished, as well as welcomed when they come about through the children's initiative. Always the learning opportunities opened up to any child are geared to his individual development and previous learning as the parents and professional staff in working together have come to recognize them in their various aspects.

The attention to individual development and the opening of the way to the learnings suited to the individual child do not mean that learning goes on in individual isolation. Rather, learning goes on in whatever groupings come about naturally, either through child initiative or teacher and parent initiative. One may find a given child with one group at one time; with a different group at another; again busy alone with some enterprise of his own; still again with a teacher or a parent, making this, doing that, as the interest of the moment indicates and as the activities of others make reasonable and possible.

The flexibility which is an essential element of a Parent-Child Educational Center means that just as grade-age placement is non-existent so also is any fixed room-placement. Rather, facilities are planned so that there can be free movement, free grouping, and intermingling as is appropriate at any given time.

The infants and little children not yet at the point of development for school learnings come and go as their parents come and go and facilities suitable for them are provided. The homes of parents who are involved are properly thought of (when parents so wish) as location for activity as much as the place which serves as home base for the professional staff. This means that the program can function either at the Center locations or in different homes as occasion indicates.

Thus parents and their children, infants, toddlers, those in school, come to the Center location and when so desired by the parents, professional staff come to the family homes for such details of activities as may be useful for either parents or children.

The free flow of activity from and to home and Center location is a salient feature of the Parent-Child Educational Center as conceived for Litchfield Park where it is a neighborhood unit within easy walking distance of the homes.

There is no blueprint for "mutual involvement" of parents and professional staff. Just as recognition is given by a Parent-Child Educational Center to the individual characteristics of children so is there awareness that parents and professional staff likewise have their individual characteristics and that these are factors affecting the degree and nature of their involvement. This means that mutual involvement is of necessity worked out as befits the parents and the staff at any given time. Again, this does not point to haphazard, laissez-faire trial and error procedure. There are basic principles which furnish guide lines to ways of arriving at workable mutual involvement, and use is made of these.

While the Parent-Child Educational Center as here described is an innovation in its total concept as the beginning unit of a public school system, there have been and are now in operation programs in various parts of the country where there is some degree of mutual involvement from which to draw suggestions. Part of the mutual involvement of parents and staff is gathering such suggestions from the parents' own experiences in programs, from experiences of the professional staff, from the findings of research, and from any other sources, as are also the consideration of the usefulness of these suggestions in the Litchfield Park situation and the planning for their adaptation.

It is assumed that parents who involve themselves in the Parent-Child Center are doing so because of their interest (1) in the developmental well-being of their infants and young children, (2) in achieving ever-increasing effectiveness in their parenting skills, and (3) in stimulating school learnings appropriate to their children's needs.

This points directly to the basic purpose of the Parent-Child Educational Center. The program of the Center, therefore, is in no sense an adult education program as such. It is rather one serving parents who as parents of infants and young children are concerned with their parenting skills and the developmental well-being of their children. This approach sets the sights for all program planning and for the functioning of the Center. However, there is full recognition of the fact that many parents may wish services aside from those directly concerning them as parents but relating rather to themselves as individuals. Since anything touching upon parents as individuals has its bearing on their parenting skills, it is properly a function of the Parent-Child Center as a coordinating activity to be of such aid as possible in pointing the way to securing the desired services from the appropriate source.

So far I have essentially developed the rationale agreed upon by the staff concerned with the problem. The staff also concerned itself with the existing research related to the problem and in so doing organized its findings into three principal areas: the early learnings of children; the parents' role in learning; the blending of school, home, and community resources.

I wish I had time to present a summary of our findings in these three important areas. The summaries are available in A Source Report for Developing Parent-Child Educational Centers, a copy of which I shall place on exhibit and copies of which are obtainable from me at Arizona State University. Rather I should like to indicate their implications for education.

The direction of recent research in the field of cognitive development suggests that intellectual skills are developmental in nature and may be modified by variation in the environment. Longitudinal guidance studies as well as those of independent researchers point to the fact that learning begins at birth and that the infant has need for tactual, auditory, and visual stimulation for maximum cognitive growth. It is reasonable to hope that by better meeting these needs we may raise the level of intellectual capacity within the population.

Since learning begins at birth, we are confronted with the fact that the home must be considered as a major educational organization. Yet LeMasters (1957), in investigating parenthood as a crisis, found that the randomly selected parents in her study felt they had very little, if any, preparation for parental roles. Most felt that they did not know what children were like. These findings have been replicated by many workers in parent education. Further, it is well documented that the child's personality becomes a mediating factor in his cognitive development (see listing of studies in "Review of Research Related to Learning, Development and Mental Health," Section III, pp. 31-48), and that many emotional disorders and social maladjustments originate during the early years of life which not only prevent or lessen the child's adjustment to school and learning, but also influence him adversely throughout life.

In the light of these considerations, it seems indicated that the public educational system, which is available to all parents in all communities, should plan for educational opportunities of a nature which will increase the parenting skills, as well as provide for the children all the educational advantages which our technologically enriched society is capable of producing.

It is foreseen that technology will become a major medium of instruction. Research cited by Zinn (1967) shows that computers have been researched extensively and have proved successful in furthering individual learning of students. In addition, encouraging analyses of costs and benefits of computer technology for educational use have been carried out by Gerard (1965). It is found that computers are helpful not only to students but also to teachers in supervising instruction, to authors who prepare self-instructional materials, and to researchers who study the optimization of learning. The successful use of such media as television, video tapes, and talking typewriters, has been demonstrated by Moore (1960), Bruner (1956), and others. Graf (1960) has successfully utilized the television circuit to conduct parent education, faculty meetings, and special programs for various grades.

It is recognized that the training and retraining of teachers and other school personnel will be necessary in order to prepare them for use of technology, as well as to implement other educational innovations in working with parents and children.

Hollister (1956, p. 205), in developing the concept of "strens" in education as a challenge to curriculum development, defines a "stren" (a coined word) as:

> ...an experience in an individual's life that builds strength into his personality, more specifically, extends and strengthens cognitive-affective ego functions....it is reserved for the more or less discrete experiences that can be either objectively or subjectively identified as having contributed to psychological growth and the emergence of new capacities. It is the task of education and behavioral sciences to match strens to varying receptivities and maturational stages and differing personality structures and learning styles.

In this, many would deduce, he is calling for a curriculum which amalgamates all that our current research points toward: that learning begins early; that there is a relationship between mental health and learning; that parents have a role in teaching; that there is need for matching the learning experience to the person at his level of cognitive development; and that learning is a continuing individual matter.

That an educational system for individualized learning which involves parents should be initiated at the earliest level, preferably at birth, is then entirely appropriate. It is during the child's early years that the parents are most receptive to education for their parenting role, and it is at the time when maximum results of learning are utilized by the child. During these early years, schools have the unique chance to help parents understand their children (how they learn, grow, and behave as they do, and how parents might best foster their children's growth and development in the home) as well as to optimize cognitive development through instructional techniques. In this way, education would have a responsibility not only for encouraging cognitive development in parents and children, but also for strengthening family life.

Hill (1958, p. 50) says that "today the myth of family self-sufficiency requires discrediting. To replace it we bring the concept of interdependence of families within communities." He cites the high mobility of young families, that results in loneliness in new communities; and he raises the questions of to whom would they turn for counsel and help when they want to talk about their troubles, and how they will become integrated into a new neighborhood or community.

The assumption of the Planning Committee of the Parent-Child Educational Centers of Litchfield Park, Arizona, is that the school can ably serve as a coordinating activity for the community services which relate to families, while working with parents in evolving a process for meeting the educational needs of both parents and children. It can, hopefully, produce families competent to exercise leadership in producing maximum environmental stimulation for the cognitive growth of children. Realizing the strategic importance of both home and school in human life, the school can provide the focus whereby each will be able to deal with the complicated field of forces which make up the family and community and educational milieu. Educators and parents, working with other disciplines, in close cooperation with others in the community, utilizing all available knowledge from research, and with systematic and practical research and development always in process, can design its educational system along vital dimensions, with a school climate always favorable to change.

The intimate involvement of those most closely concerned with the education and developmental well-being of the child can make it possible for the public school system to serve as the hub of the community to meet the particular needs of the inhabitants thereof; can provide a stress-reduced flow from family life to school life; can increase the mental health of both parents and children; can help parents in the refinement of their parenting skills; and at the same time can provide for the sound education of our nation's children.

Based upon such implications, a program was proposed for the Centers.

NATURE OF THE PROGRAM

By definition the purpose of the Parent-Child Educational Centers is to serve parents and young children. Likewise indicated is the mutual involvement of parents and professional staff. This is a basic and distinguishing feature of the program.

It is to be expected that the program of one Center will differ from that of another, since different parents, children, and staff are involved. However, certain fundamental conditions form the framework for all programs.

As Concerns the Children

Experiences and guidance provided will be fitted to the children's individual development. The inclusion of infants and young children may raise the question as to whether it is the intention to push the usual school learnings down to them.

No. It is rather the intention to base the educational experiences made possible for them through the findings of research about infant learnings being carried on by such leaders in the field as Martin and Cynthia Deutsch, Lois

Barclay Murphy, Urie Bronfenbrenner, and J. McVicker Hunt.[1]

The concern with individual development as it proceeds from infancy onward is a marked feature of the program. There is no time set for a child to "begin school." This will vary with the child. "School" days will come sooner for some than for others. Thus what is usually thought of as transition from home to school will take place naturally for the children who from infancy or little childhood on are accustomed to being at the Center and with other children. School, as the term is used here, is taken to mean the expected, planned, sequential learnings related to reading, writing, mathematics, language, use of materials, music, social living learnings, et cetera.

The usual school learnings will be given full attention, with no haphazard laissez-faire approach but definite, thoughtful, planned. Learnings will not be left to chance nor will the children be left to happen upon them as best they may. Teachers will be fully qualified under Arizona certification laws and will be familiar with the expectations of Arizona outlines of accomplishments for children of designated school age. They will be persons familiar as well with up-to-date research in the field of children's learning, with sound teaching methods, and with teaching aids useful in working with different developmental groups.

In the Parent-Child Educational Centers there are no limits set on the extent of any child's learning. Each may proceed at his own rate. To make this possible the children are not divided into the usual grades. Groupings are those which come about naturally on the basis of similar interests, abilities, and achievements. With such a set-up it is to be expected that many children will move into structured school learnings much earlier than usual and progress in them more rapidly. However, a child who might move at a more leisurely rate would be equally free to do so.

As Concerns the Parents

Parents are involved both in planning and in carrying out plans. It is natural that this should be so since they, more than all others, are interested in their children's developmental well-being and in their own parenting skills.

Parent involvement is of a twofold nature: participation in planning and in carrying on the activities of the Center, and participation in using the facilities of the Center and joining in the activities they have helped to plan.

Parent involvement includes both fathers and mothers. It is not "problem" involvement to be discontinued as the problem reaches solution. It is a continued-interest involvement. It is to be expected that it will vary from time to time and from family to family.

The facilities and activities available to parents at any given time will depend on the planning they and the professional staff do together. These may include any or all of the following: the setting up and use of a parents' resource center with books, pamphlets, and printed materials relative to children and to parenting skills; observation of the children in different groups followed by discussion with the appropriate staff member; small study-discussion groups; counseling with professional staff members; arrangements for exchange services in purchasing records, books, and toys, or in providing for help in some emergency; arrangement for home loan of toys, books, records; instruction in various areas of interest to parents as individuals, for example, painting, arts and crafts, writing, drama; utilization of center facilities for parent and family recreation.

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[1] For annotated bibliography of pertinent research see Appendix C, "A Source Report for Developing Parent-Child Educational Centers," College of Education, Arizona State University, Tempe, Arizona, June 1968; and for a resume of selected research basic to the concept of the Parent-Child Educational Centers as proposed, see Chapter II of the same report.

Participation of parents in working with the developmental groups of children or in providing services for them will depend on individual parent interest and is entirely voluntary. Possible activities include: serving as assistants in the various developmental groups; bringing varied experiences to the children, for example, story telling, music, nature lore; helping provide facilities for the children's activities, for example, selection of equipment, preparation of materials, arranging for trips and other special experiences; arranging for groups of children to come to a home for some planned-for activity.

Emphasis here, and throughout, is on parent (father, mother) involvement. Involvement is not necessarily limited to parents but may under appropriate circumstances extend to grandparents, interested relatives, and even to neighbors who may have no children in school or only older ones.

General Characteristics

The program is flexible in its possibilities for modification and change. It is diversified and varied because of the numbers of parents and staff members planning it. The program evolves as ideas emerge and are acted upon, and is challenging in its purpose to find answers to practical questions relating to children's developmental well-being and to parenting skills such as: What does best provide for the developmental well-being of children as shown by the scientific research continually going on? How can the findings of that research be put into practical operation in working with the children? What are the parenting skills which parents themselves recognize as effective? What are the tangible evidences that developmental well-being is being achieved? How can the children's eagerness to learn best be nourished and kept intact? How can parents and professional staff so arrange situations that learning for each child will move along as a continuum? Searching to find answers to such questions serves to keep the program fresh, alive, vital.

By definition the Parent-Child Educational Center is a coordinating activity. There is coordination of parent and professional staff interests, competencies, and services. There is coordination of provisions for the children so that the teaching fits individual children's abilities and stages of development with no child pushed ahead of or held back from what he can do.

There is coordination of services within the Center and coordination of those services with those of the various community agencies. As would be expected in a new community, some needed services will have their beginnings in the Center, later to become a general community service as the appropriate agency becomes established.

PLANNING THE PROGRAM

Planning of the program devolves upon both parents and professional staff. Mutuality of planning is an essential and distinguishing feature of the Parent-Child Educational Centers. It is only the parents who can bring to the planning the understanding they have of their own children; the ideas they have of what they want for them, including their school learnings; the values they have for their family; the ideas of how the Center program can be useful to them in their parenting, and of what they can bring into it.

The members of the professional staff bring to the planning their basic understanding of children's development and learning, their special knowledge and skills in various areas, their leadership knowledge and abilities, and their overall view of the possibilities of the Center's program.

Mutuality in planning is an active working relationship in which both parents and professional staff offer ideas, consider ideas, accept or modify them, and come up with an agreed-upon working plan.

Initiative in planning stems either from parents or professional staff and in varying degrees at varying times. An essential aspect of planning is providing for the encouragement, acceptance, and utilization of the leadership implied in the word "initiative," whether this comes from one parent or several, or from one staff member or several.

Continuum in planning is essential in an evolving program. Planning must go on continually not only about what to do but about how to do it. This includes planning for keeping activities moving steadily ahead as concerns both children and parents under the varying conditions that arise.

The program that is proposed can best be understood by referring to what we have called One Family's Experience, a projection of how we visualize the functioning of the program. It is found in a brief publication we are using with the parents in the Litchfield area called A Plan of Action for Parent-Child Educational Centers. I am making a number of these publications available following this address and I will leave it to you to read about this mythical family and its experience with a PCEC.

Following is a general description of the plan proposed for providing for the operation of the program as it functioned with the mythical family to which I have referred. The more specific details of the plan will be worked out during the period of pre-opening preparation as parents and professional staff work together getting all in readiness for the Center's opening.

The Center Planning Group

It is proposed that each Center shall have a continuing planning group made up of seven parents and seven professional staff members with the Center Director an additional member. Membership in this group, it is suggested, shall be on a rotating basis with two parents and two staff members to be replaced every six months. Members should be so selected that different developmental groupings of children are represented with both fathers and mothers included though not from the same family.

The selection of the first Center Planning Group probably would be made by the Program Director, the Center Director, a parent representative, and a professional staff representative.

The Center Planning Group would be responsible for considering general plans for Center activities, for bringing in suggestions of services needed, for planning formation of parent-involvement groups as interest indicates. Thus it will serve as a clearing house for suggestions and as an advisory group in defining needs, in suggesting ways to meet them, and in recommending policies.

Parent-involvement groups will be formed as interest and need indicate, with membership on a voluntary basis. A group may be formed on either parent or professional staff initiative, cleared through the Center Planning Group. Any parent-involvement group will continue for whatever time is needed to accomplish the purpose for which it is formed.

Center time-schedule. It is proposed that the Centers will be open twelve months a year and during the day and evening six days a week with hours depending upon the various activities of the children and parents and the recommendations of the Center Planning Group.

Enrollment. Since this is a public school it is expected that children of regular school age will be regularly enrolled for the usual expected school attendance. Infant and younger children will be enrolled for regular attendance also, but for such days and hours as parents and professional staff in talking the matter over together deem advisable. This regular enrollment of children is necessary for the orderly functioning of the Center.

Parents who are willing to be actively involved in participating in the Center activities will also be enrolled. The time and nature of their involvement will be a matter of mutual planning by them and the professional staff.

Details for making provisions for children of working mothers will be worked out in light of needs that present themselves. Through mutuality in planning it is hoped that arrangements can be made so that the working time of the mothers who wish to have their children at the Center will still allow for their involvement in Center activities and that the time the children are there will coincide with that of the other children.

Grouping of the children will be on a continuous progress basis, the determining factors being the individual child's developmental characteristics, needs, and stage of learning. It is to be expected that the groupings will fall into three units: Unit I, those under three years; Unit II, those three, four, and five; and Unit III, those six and seven. There will be free natural movement from one unit to the other and overlappings can be expected.

Infants and young children (Unit I). It is expected that unless there is some pre-arrangement to the contrary a parent of an infant or child under three will be at the Center during the time the child is there, either observing, consulting with some staff member, helping in one or another of the groups, or in some other way being involved in the Center activities. It is recognized that parents who may not have an infant or young child enrolled and who may not themselves be actively involved in the Center activities may still wish to come for an observation or consultation, and may need to bring the child with them. By pre-arrangement the child may be left under the educational guidance[2] of the appropriate teacher.

Mutual planning of parents and professional staff may determine that facilities for Unit I be available from 9:00 to 11:30 on MWF and from 1:00 to 3:30 on TTh, leaving the afternoon hours in the one instance and the morning hours in the other free for teachers to work with parents. This may be for talking together at the Center or with the parent or parents at their homes when this is their wish. It is to be expected that parents may often find it more convenient to have a teacher come to the home, and scheduled time is so arranged that this is easily possible.

Children three, four, five (Unit II) will attend on an individually arranged basis. Thus one child may attend three days a week, another four. But whatever the arrangement, it should be regular.

Facilities for the three- and four-year-old children may be on MTWTh from 9:00 to 11:30 (or 12:00) as decided. The five-year-olds will attend on a five day basis from 9:00 to 12:30 or in an afternoon session.

Children six and seven (Unit III) will be moving definitely into more organized sequentially planned school learnings in accordance with the expectations of Arizona for the first and second grades of the public schools. There will be the customary five-day week for these children, with sessions from 9:00 to 2:30, or other stipulated programs.

Vacations may be arranged through mutual planning, as suited to the best interests of children and parents. However, the vacation periods customary for the schools of the state will be observed in general with individual variations as indicated. Care will be taken that arrangements for children considered by state law as of school age will provide the number of school days required by law.

Reporting from Center to homes and from homes to Center is seen as essential to that understanding of the children which makes it possible to plan the program to fit individual needs. Arrangements shall be made therefore for unhurried times for parents in each family and staff members to talk together. A plan for such written reports as are desired will be worked out by an involvement group formed for that purpose.

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[2] Educational guidance indicates that this is not a baby sitting service.

Records will be kept of each child's progress and of the varied activities of the Center. In keeping these, consideration will be given to various means of recording, such as tape, movie, and slides. Complete records are seen as necessary for continuous evaluation and as the basis for program planning.

Services such as those needed for health care and counseling will be arranged either through provision by the Center or by coordinating arrangements with the appropriate community agency. Such food service as is needed will be provided through the school district lunch service program. Any service provided for the children or parents will be in accord with the latest scientific research findings and practices in the given field.

It is recognized that individuals and groups other than children and parents will wish to participate in the activities of the Center. Through mutual planning, provisions will be made as seem advisable for observation of the children's activities by students from the upper levels of the school. Also provision may be made for observation and possible participation by college students majoring in fields related to children, parents, family living; by research workers from various disciplines, by visitors interested in the concept of the community school, in the innovative features of the Center's activities, in the facilities provided, or in various special aspects of the program. Any research provisions made shall be within the framework of the Center's regular activities rather than specifically set up for some purpose necessitating modification of those activities.

Staffing

Staffing is seen as one of the most important and difficult problems associated with the development of a PCEC. Admittedly few persons are qualified by outlook and preparation for the responsibilities varying from the Program Director to the teachers, their assistants, and aides. It is proposed to have a full year with a staff to develop such readiness before a Center is opened.

One of the differences in the staffing plan proposed is that ratios and time be on the basis of families in contrast to our usual teacher-pupil ratio plan. We have projected the staffing for a Center as requiring 30 professionals for about 300 children and their families. This number would not include the Center Director, aides, and supporting staff for the various services, such as health, psychological, food.

I have included in this paper the staffing plan, brief job descriptions for each position, and a plan for in-service preparation for the staff. I shall not, however, take the time to go into the detail that a presentation would require. This information is also included in A Plan of Action for Parent-Child Educational Centers to which I have referred.

As indicated by the Chart:

A Program Director will have general overall responsibility for all Parent-Child Educational Centers. It is assumed this will be a person from the ASU faculty and responsible to the University in the demonstration phase only.

A Center Director for each Center shall be a person concerned with the overall functioning of the Center. This should be a person in sympathy with the purposes of the program, one who relates easily to both adults and children, one who is easily adjustable in meeting changing conditions, and facile and imaginative in providing for them, and adept

STAFFING

The general plan for staffing is shown below:

Program Director

Having general overall responsibility for the
Parent-Child Educational Centers
(From ASU faculty and responsible to
the University in the demonstration phase only)

Center Director
(for each Center)

Unit Leader I			Unit Leader II			Unit Leader III	
Infants	Ones	Twos	Threes	Fours	Fives	Sixes	Sevens
25	25	30	35	40	45	50	50
Total 80			Total 120			Total 100*	

Teachers working with overlapping developmental groups and with parents and parent involvement groups

Unit Leader I	Unit Leader II	Unit Leader III
Estimated 75 families participating. Estimated a teacher gives average of 3 hours per week per family = 225 teaching hours divided by 40-hour week = 5+ or 6 teachers	Estimated 90 families participating. Estimated a teacher gives average of 5 hours per week per family = 450 teaching hours divided by 40-hour week = 11+ teachers	Estimated 80 families. Estimated teacher gives average 6 hours per week per family = 480 teaching hours divided by 40-hour week = 12 teachers
3 Teachers 3 Assistants	6 Teachers 6 Assistants	6 Teachers 6 Assistants
+ Teacher Aides + Parents	+ Teacher Aides + Parents	+ Teacher Aides + Parents

Total for three units 15 Teachers
15 Assistants

With other professional staff providing
Service to Visitors
Health Care
Food Service
Counseling Service
Research and Evaluation
Leadership

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*The number of children here indicated should be understood to be hypothetical and is used as a base figure for purposes of indicating the plan for determining staff.

in working with public school officials and with community groups. This person should be knowledgeable in child development and early childhood education, experienced in working with children of different ages, and with teachers in planning for program functioning, and skilled in handling program details.

Unit Leaders, one for each of the units, should in each instance be a person experienced in working with children and parents, in full sympathy with the purposes of the Center, interested in and willing to work with overlapping units as indicated in the continuous growth set-up of the Center, knowledgeable in child development and early childhood education, willing to work in a coordinating relationship with all staff members.

Teachers shall be properly certified for teaching in the public schools of Arizona. They should be persons thoroughly understanding of children's developmental characteristics, warm in feelings for them, cognizant of what it is useful for children to know and feel and do, knowledgeable in the various areas of school learnings, skilled in guiding learning, willing to work in mutual involvement with parents.

It should be noted that in the Chart the estimated number of teachers and assistants needed is based on the assumption that time will be divided half and half with children and with parents. The estimate, therefore, is in terms of the number of families involved rather than on the usual basis of only the number of children.

Parents who are actively involved in work with the children are in the groups not only to give help but to increase their parenting skills. Thus while they are of assistance with the children they can also expect interpretative discussions with the teachers.

Assistants are considered a part of the professional staff. They may or may not be certified in the state of Arizona but should have a minimum of two years of college with basic preparation in child development and/or early childhood education.

The importance of having both men and women working with the children of all ages is recognized. It is the intention that men will be included on the teaching staff and it is hoped that fathers will be available to participate in the developmental groups, as their time permits.

Aides may be employed as need indicates. They may be non-professionals in the sense of not having completed professional preparation as in the case of teachers, or partial preparation as in the case of assistants. They should have a minimum of high school education and have had some experience with children of the ages of those in the Center.

Other Staff needed to provide health, psychological, psychiatric, counseling, and food services, as well as service to visitors, and the like, will be arranged for as the program develops during the pre-opening period.

An Evaluation Leader will be needed to take responsibility for continuous appraisal and reappraisal. This leadership is essential in an innovative nature (See p. 5). The Research Director and the Evaluation Leader may or may not be the same person. If there is a different person for each position the two will naturally work closely together.

IN-SERVICE TRAINING AND PRE-OPENING PREPARATION

The period of one year while facilities (see figures 2 and 3) are being built will be a time of in-service training and pre-opening preparations. Professional staff should be regularly employed. The plan for mutuality of planning will immediately begin to function.

This will be a period during which professional staff will have the opportunity to become familiar with each other's points of view and to come to a common understanding of the rationale of the Parent-Child Centers.

This will be the period, also, in which parents and professional staff, through their mutuality of planning and involvement will be working out the details of working together as well as handling the great variety of details incident to preparations for Center opening.

To facilitate the immediate functioning of this mutual involvement the Center Planning Group will be formed at once. Through the active work of this group it is natural and to be expected that parent-involvement groups will be formed from time to time for working on varied details of Center opening preparations.

There will be regularly planned seminars and workshops in which all professional staff and such parents as wish will be included.

Here there will be examination together of findings of current research pertinent to children's learning, pooling of knowledge concerning experiments being carried on elsewhere, with details suggestive for operation of the Parent-Child Centers. There will be exploration of suitable equipment, furnishing, materials, and their selection and assembling.

There will be workshops concerned with examining, selecting, assembling, and eventually arranging materials for a Parents' Resource Center and for the Center's central work area. This will involve examination and selection of a great variety of teaching aids.

There will be plans worked out together for acquaintanceship with the children who will be coming to the Center when it opens. It will be a year of interest in children's developmental well-being and in parenting skills even though the Center location will still be in the process of building. Center activities will be developing and functioning throughout the neighborhood as parents in one home or another open the door for them. This, in itself, is a highly innovative feature of the plan--a feature by which parents, children, and staff are involved together in a program whose localized place of operation is at the same time taking form.

This year of working together in pre-opening preparations will give the opportunity for general acquaintanceship throughout the community with the possibilities of the Center's services, and for gathering suggestions from the community for those services. There will be arrangements, presumably under the leadership of the Center Planning Group, for counsel with community leaders, industrial leaders, labor leaders, spiritual leaders, club leaders, leaders of youth groups, leaders in various professions, and for group meetings with them and with others representing these and any other interests.

Thus the year of pre-opening preparation and in-service training becomes a time for the pooling of knowledge and skills in various areas which different staff members and parents represent, a time for coming to a common basis of understanding, a time for becoming accustomed to working together, so that by the time the facilities are completed the mutuality of involvement will be a way of carrying forward the work of the Center with which both professional staff and parents feel at ease. Further, through that mutuality of involvement the many details for program functioning will have been worked out with all in readiness for an orderly opening.

RESEARCH POSSIBILITIES FOR THE PARENT-CHILD EDUCATIONAL CENTERS

The fact that the program of the Parent-Child Educational Center is highly innovative suggests the need for continuous evaluation and appraisal of all work carried on by parents, children, and teachers, as well as community reaction to that program. Such evaluation and appraisal will be under the direction of the research and evaluation leader, who will give leadership regarding the way researches are designed and implemented. It is to be understood that in carrying out these studies there will be no exploitation of children or any other persons involved. Nor will the full, rich program for parents, children, and teachers be modified in order to meet the convenience of research.

THE COMMUNITY SCHOOL

For many years the "community school" idea has been reflected in American education. In the early days the one-teacher district school provided the only community center. It had wide use for social, political, and other purposes. As the population has grown, especially with the development of the city, the early emphasis of the school as a community center has been lost, with rare exceptions. One of the exceptions has been in Flint, Michigan, where, with the help of the Mott Foundation, the idea has been developed far beyond the concept of an earlier day.

The Concept

The community school concept has been accepted by the study team as offering the best opportunity to meet the educational needs of the Litchfield Park area for the rapidly changing society in the years ahead.

In this concept there is no distinction between the school and the "outside world." The entire community is a laboratory for learning. The community school is a place where living and learning converge. Five main aspects of the community school program aid in defining the concept:

The school has a community-centered curriculum. In such a program the school sees the community as a resource for the enrichment of the program of the school. Community resources also help.

The school has a vocation-centered curriculum. More obvious at the secondary and community college levels, but integrally related to the philosophy at the elementary school level, the school takes advantage of the opportunities provided by the community for work experiences.

The school has a community-centered function. Emphasis is put upon developing the fullest use of the physical facilities of the school by community groups for their aesthetic, academic, recreational, social, and vocational enhancement. School-centered programs also enhance learning that will help people improve themselves economically and in the area of health.

The school has a community service function. The aim is to improve the conditions of life in the community. Efforts are made to coordinate activities of many agencies with the school.

The school has a commitment to education as a continuing life-long and necessary process in a world of rapid change. Continuing education is advocated as the most desirable means of meeting the challenges of the change.

With these characteristics the community school assumes four major functions:

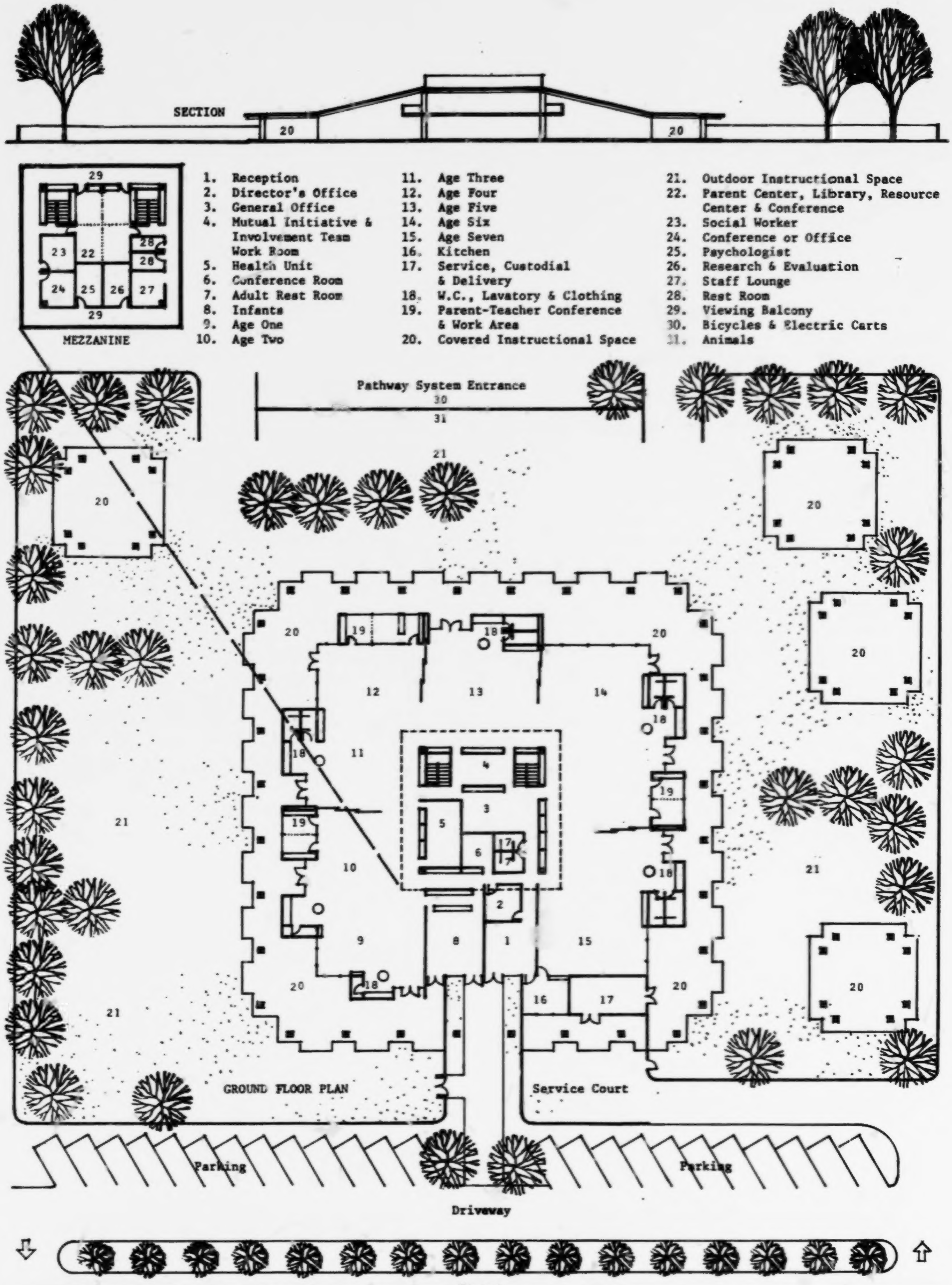
Teaching community living to children, youth, and adults
Serving as a center of community life and action for people of all ages and classes
Striving to help each individual learn what he needs to know in order to solve his individual problems and meet his own needs
Helping people learn how to solve the problems of the community and bring about community improvement

Developing such a program has implications for the community, the board of education, school administrators, and the other professional staff. It suggests a way of life not frequently achieved, but found in such degree in school systems over the country to warrant its feasibility for a developing area such as the one under study.

It should be pointed out that the PCEC concept relates closely to the underlying position that all schools in the new city should be *community* schools.

The next step in our program is a demonstration. We have been invited by NIMH to submit a proposal for a demonstration based on the planning to date, and we are seeking funds to build a Center. The Educational Facilities Laboratories, Inc., has assisted us in developing plans and a model for the physical facilities to house a Center. We are working with citizens and the local school authorities in the Litchfield area in interpreting the PCEC concept as well as our total proposal for the educational program. This study, called *Design for Lifetime Learning in a Dynamic Social Structure: Education 1980 A.D.*, is on exhibit and may also be obtained from Arizona State University.

We fully realize that our plans are ambitious. But planning at any time is an intriguing enterprise. When it involves projecting an educational program for a new town area which may surpass 100,000 in population during the next two decades, it is challenging! These facts, coupled with the changing character of education, made planning for education in the Litchfield Park area an adventure that has challenged all who have been concerned with the project.



1. Reception
2. Director's Office
3. General Office
4. Mutual Initiative & Involvement Team Work Room
5. Health Unit
6. Conference Room
7. Adult Rest Room
8. Infants
9. Age One
10. Age Two
11. Age Three
12. Age Four
13. Age Five
14. Age Six
15. Age Seven
16. Kitchen
17. Service, Custodial & Delivery
18. W.C., Lavatory & Clothing
19. Parent-Teacher Conference & Work Area
20. Covered Instructional Space
21. Outdoor Instructional Space
22. Parent Center, Library, Resource Center & Conference
23. Social Worker
24. Conference or Office
25. Psychologist
26. Research & Evaluation
27. Staff Lounge
28. Rest Room
29. Viewing Balcony
30. Bicycles & Electric Carts
31. Animals

SCALE 1/32"=1'	FLOOR PLAN OF PROPOSED FACILITY TO HOUSE P.C.E.C. PROGRAM	June 1968	DOYLE FLYNN ASSOCIATES, ARCHITECTS, AIA PHOENIX ARIZONA	FIG. 3.

THE LEARNING ENVIRONMENT

Dr. D. Keith Osborn

Professor of Home Economics, University of Georgia
Athens

THE GROUP assigned this topic discussed various factors in the learning environment. These included the importance of psychological as well as physical space. There was discussion of the balance needed between the "familiar" and the "new"; that is, that the environment should be familiar in the sense that it gives the child a feeling of trust and security--somewhat in the sense of Dr. Hymes' statement that the school environment should convey to the child that this is his world.

Yet the ideal learning environment should present new challenges to the child and be sufficiently unstructured so that the child could perceive new relationships based on his present schema.

The importance of an environment which would help the child gain more experience in perceptual differences was stressed.

There was a lively discussion on the extended learning environment, centering around some new ideas for busses. The central theme here was to change the educators' ideas from vehicles of transportation to vehicles of learning. Ideas included making a vehicle which might contain auditorium seats, or small cluster groups of seats, pleasant decorative interiors, audio-visual installations, et cetera.

There was a short discussion of mobile learning environments containing specific content areas which might be moved from school to school.

There was some discussion, perhaps of more immediate concern to teachers, on various aspects of teaching.

Finally there was some discussion of new electronic equipment and how this might affect the learning environment.

CONVERSION AND MODERNIZATION OF FACILITIES FOR EARLY CHILDHOOD EDUCATION

Ben E. Graves, Director

Educational Facilities Laboratory
Chicago, Illinois

THE SUGGESTION was made that in my presentation I raise some questions to help us develop some principles and practices to be followed in the conversion and modernization of facilities for early childhood education. Trying to become an "instant expert" on the subject, I read various source materials, which served only to confuse me. I found one group of authorities saying that kindergarten should be a wonderful world of play, with other authorities insisting that the kindergarten experience is the time to make certain the child is a minor genius by the time he reaches the first grade. In fact, the excellent report on the current Toronto studies states: "...a major public and professional debate about the direction of early childhood education appears imminent."

I assume that this conference is part of that debate and I leave it to the qualified educators in our midst to help explain for whom we are planning. I am told that the emphasis at this conference is on the kindergarten, but Dr. McGuffey did add in his charge to me "...if this makes a difference...."

I wonder. Does it make a difference? And what is a kindergarten? What is a child, for that matter? Is a child a little adult? Of course he is not, even though many schools I have been in treat him as such. Is a child from a slum home without a father or a room of his own, or who has never held in his hand a book of his own the same as a child from one of your homes? Considering all the implications of the question, I wonder.

I speak with some degree of authority. First, I am a father of two young women who were once children. Second, I was a child myself. Third, I live in an area of suburban Chicago where books and martinis share equal importance. And, for the past four years, I have been working with the Great Cities school districts of this country where, as we all know from reading the newspapers, there are a great number of children who do not have the martini-book advantage. In fact, one-third of the 3,700,000 children enrolled in the nation's fifteen largest school systems are disadvantaged.

The prognosis for 1970 is one out of two disadvantaged. What makes them disadvantaged? In a report, The Culturally Deprived--educating the disadvantaged, published by the Great Cities Research Council in 1964, with a second printing in 1967, this is the answer to the question of what makes children disadvantaged--"In a way 'poverty of experience' is too stark. But no matter what is present in this child's life, or what is missing, there always seems to be one common denominator: he has not enough. He and his family have not enough income, information, skills to get along successfully; no precedent for success; insufficiencies of many sorts."

But, and just as significant and the point many of us are inclined to overlook: "This child is poorly prepared and poorly motivated for school. He seems, in one teacher's words, 'not very hopeful, not very comfortable here, as if he thinks he'll not do very well.' Yet, this child has normal intelligence. He is not limited in this respect. He can learn well, can grow up in school, if reached by what the school offers. But the typical disadvantaged child in the typical classroom is indifferent, purposeless. He does not respond to normal teaching methods and subject matter. His capabilities remain unrealized."

It would seem, then, that realizing this, we should build from here on the charge given us, to make an effort to develop some "principles and practices" to be followed in the conversion and modernization of facilities for early childhood education.

What are the existing facilities we are talking about?--This familiar old building, in service since around the turn of the century? A more recent school of the 1925 vintage? One of our 1930-40 models? One of our newer schools with its turn-of-the-century floor plan that gets in the way of education?

In sixteen of the great cities of this country, there are approximately 650 separate school buildings still in use which were constructed before 1900; there are almost 900 that were built during the period of 1901-1920; or, there are more than 1500 schools still in use which were built prior to 1920. Nationally, almost one-sixth of all permanent instructional areas have been in use for more than fifty years.

Our problem, then, is to come up with ideas on how to design spaces within these buildings which will inspire little girls who are fascinated with real live does or with exploring the great unknown. Two former bosses and a current one spoke on the problem in a panel discussion published in the November 1965 issue of Nation's Schools.

Dr. Sidney Marland, former superintendent of schools in Pittsburgh and former president of the Great Cities Research Council, in describing a five-story school being designed for the difficult Pittsburgh terrain, said: "But every floor is a ground floor....The kindergarten has its own entrance--on the third floor--but the children will walk up the outside to their kindergarten and come out on the roof of the auditorium, their play yard....The cost of the land is probably going to be approximately $330,000 per acre. I remember very clearly buying valuable real estate in Darien or Winnetka where we thought we were being robbed at $10,000 an acre. That's why we must use roofs as well as soil when we plan buildings in big cities."

Larry Perkins, senior partner in The Perkins & Will Partnership, architects, says: "I would like to have a sense of incompletion be a characteristic of any interior or exterior of these places for young kids. I would like the school to have places where you can't keep your hands off the pine boards, where you want to tack something up, where change seems so necessary. The alternative is finished and glazed spaces that you can't use without profaning them."

And Harold Gores, suggesting that perhaps the schoolhouse is not necessarily the place for early childhood education, said: "When districts go into vacant stores or brownstone houses, or whatever, I hope that school officials invent an environment for three and four year olds that is not simply a miniaturization of our existing first grades. These tend to be spaces occupied by slippery little plastic chairs in which we prop up the student as though he were a shrunken business man, and tell him: 'Sit there all day.' We've worked with the governor of Samoa on some school installations and he said, 'I'm not going to inflict the chair on these small children in Samoa. We're close enough to the elements so we are content to be on the floor as small children tend naturally to be.'"

As many of you know, I am in my fifth year struggling with this topic of how to design New Life for Old Schools. In all of our studies, we have not tackled the problem of early childhood education, although there is an excellent report on the subject by Dwayne Gardner and architect Ron Haase and additional valuable information in EFL's latest publication, Educational Change and Architectural Consequences. Also available from EFL is a Memorandum on: Facilities for Early Childhood Education, which lists the areas needed.

But I think it might be valuable for us to take a brief look at some of the areas we are trying to change in the high schools, middleschools, and elementaries.

Working our way back, here is a "for instance" of an eating area in a high school in one of our largest cities. The teacher with the bullhorn makes a nice addition to the friendly noon-time atmosphere, doesn't she? But, you say, this is a problem school with those rowdy teenagers! Perhaps. But in an elementary school in another city, I saw this sign in a cafeteria: "EAT QUICKLY AND QUIETLY. DO NOT TALK WHILE EATING." Maybe that's why the bullhorn is needed in the high school.

Let us make a brief stop in a typical classroom of a junior high school. You can imagine the pride the teacher takes in this room and the great feeling of enthusiasm the student body has for good old--whatever it is--High School.

Now let's drop down to an elementary school. The playfield is that space between the school building and the theatre next door. If you can read the marquee it says: "House on Haunted Hill" and "Corridors of Blood." Appropriate?

Then is our task impossible? Not at all. It means we have to work harder and with a little more compassion than these examples indicate.

Here is how we suggest changing that cafeteria atmosphere in the school you saw earlier. How about this for classroom change?

The elementary school is on a replacement list, but a little paint "rescued it" for the year or so it has left. The disaster will occur if it stays on that replacement list for another ten to fifteen years.

But let's jump out to Cherry Creek, Colorado, where an inspired superintendent took a look at an elementary school built two years ago and already is as outdated as many of the 50-75 year old jobs. Out with the walls--and a new freedom the youngsters (and the teachers) love. They have no traditional kindergarten at this school. Five year olds enter the school on, or immediately following, their fifth birthday. There is no conventional cut-off date. For this reason, there is no large influx of five year olds in September. These students attend only a half day session initially. As each student matures, grows, and learns, he is given a more sophisticated program, and at any time during the year he may be invited to stay for the full day session.

The children are searching -they are ready. They will create beauty if it isn't there. But they won't continue to create it if we tell them we don't care. All children deserve this--or this--or this--and this.

So it would seem we have some questions to try to answer during our discussion time. Here are a few. I trust we will add others as we go along:

* Is it possible to create appropriate early childhood educational spaces in our old, high ceilinged buildings?
  Is this the appropriate type of building to use to introduce the 3- 4- 5-year old to the great American educational process?

* Should this early childhood educational space even be in a schoolhouse? Dr. Marland suggests we don't need a new building. You can take an old brownstone front that is dilapidated, ugly, and bitter and make it a symbol of rededication, of rejuvenation. And Harold Gores adds: "Her /Jane Jacobs/ theory is that instead of flattening out the slum with a bulldozer and then building anew, you go into these broken-down, defeated neighborhoods and renew them. As you slip these small children into these neighborhoods, you help revive them. Maybe you lead them toward their own renewal without having first of all obliterated the entire place."

* Should we approach this type of modernization in an entirely different way? In addition to an architect, do we need an inspired interior planner who understands that we are trying to create a substitute home atmosphere? Remember our friend from Samoa quoted earlier. Some children enjoy getting inside a box. If our inner city children have no place of

their own at home, should we create a place for them here? A real place of their own?

- How about really taking these spaces out into the neighborhood and modernizing store fronts, apartments, and so on. A place where parents can peek in. Maybe they should be designed as family places and not just for the children? Larry Perkins suggests we need an "infiltrate" school as opposed to an "island" school.
- Is it possible to put down a list of practices for modernization that have universal application or should each neighborhood be approached separately recognizing the background special problems of its citizens?
- Are we too old to remember the joys and sorrows of childhood? Do we really remember the joyous fear of our first rollercoaster ride or the almost overwhelming pleasure of a cotton-candy cone? Or the excitement and pride in making a little theatre?
- And what of the outdoor classroom--the playfield that can become part of the learning experience? Where is the imagination to compete with the youngster's inquiring mind? Can we be satisfied with this when we know the child is ready to respond to this, and this?
- Is this the door we really want to have our pre-schoolers enter as their first introduction to school?

There is the start. Let's now hatch ideas superior to the egg-crates we have in use. The drawing paper is waiting--and I have faith that if we can create this combination, we can create environments for the inquiring mind, and create the environments before it is too late.

FINANCIAL RESOURCES FOR THE DEVELOPMENT OF EARLY CHILDHOOD EDUCATIONAL FACILITIES

Dr. John Cameron

Director, Division of Facilities Development
Construction Service, U. S. Office of Education
Washington, D. C.

LET ME begin by saying that there is no direct aid for construction of elementary and secondary education of any type. There are a few categorical aids for trying to meet special needs, and I would like to tell you briefly about them, though I cannot give you a great deal of encouragement about obtaining them. Also, I cannot tell you a great deal about financing in general terms.

The aids that are available from the federal government can be enumerated quickly. One is the so-called SAFA program--School Assistance in Federally Affected areas. This is not for kindergartens, but it is the custom in a state in which a school district qualifies for SAFA funds, that is, the district gets some federal aid in lieu of taxes that have been taken off the tax books because of a federal activity located within the school district.

Title I of the Elementary and Secondary Education Act--the law itself--prescribes that construction is one of the items that money might be spent for. However, I think most of you have had experience with Title I and have learned from experience that it gives low priority to construction. The emphasis is on programs and equipment and materials to help the disadvantaged.

Title III of the Elementary and Secondary Education Act also indicates that funds might be used for construction, but here again the story is the same as it is for Title I. The fact of the matter is that with the emphasis on programs, equipment, materials, and supplemental programs, there has never been a large enough appropriation under the act for it to be possible to put a sizable amount into construction. I am told that two or three slipped by one year, but there have been very few.

With a little investigation by a member of my staff we looked over a Headstart-approved experimental program in Los Angeles for the use of relocatables in the Headstart program. I am told that it was not very satisfactory. I don't know the details, but that program was the only case in which the Headstart funds have been used.

That is just about it in the Department of Health, Education, and Welfare. You know that Headstart has been transferred to HEW. It is directly under the secretary, and not a part of the Office of Education, although there is the opportunity (and I am sure it is working out in practice) for a great deal more coordination than could very conveniently be carried out between the Office of Education and the Office of Economic Opportunity.

There are other periphery programs for which if you search hard enough and work your story enough, some little bits of aid at the federal level might be obtained--most of these are under the Department of Housing and Urban Development. Atlanta is an example of where they were able to get some money--not especially for kindergarten or pre-primary, but as a part of Atlanta's regular program, and they have chosen to apply their neighborhood center funds to a building containing nursery school and kindergarten and use the funds for that purpose.

The program in Hagerstown, Maryland, is a rather interesting one--a day care center on a community college campus operated by the community college officials. It is my understanding that funds for construction are coming from two federal sources, the Vocational Technical Education Act of 1965 as amended, and the Appalachia Redevelopment Act. The theory behind permitting these funds to be used for this particular center is that the facility will include the training of aides to work in early childhood education at the community college, where there will be small kids in a kind of laboratory school or day-care center.

That is about the extent of the federal aid. Let me tell you why I cannot give you details even if I were aware of them. Members of our staff have just completed a group of regional meetings in nine cities in the country. The result is a listing of federal aid in the area of construction and if any of you want the list I will be happy to send you a copy upon request.

Also, we have recently received a very fine report, Catalog of Federal Domestic Assistance, 1969 edition, that was published by the Vice President's office, compiled for the executive office of the President by the Office of Economic Opportunity. This report is available from the Government Printing Office. It of course relates to all federal assistance; so those of you who are interested in financing programs, as well as facilities, will find a great deal of information.

I know of no state that has specifically earmarked state monies for the construction of nursery schools, kindergarten schools, or day-care centers.

I get pessimistic about bills that are introduced for construction. When I worked in Raleigh, I remember going to Washington on several occasions to testify on pending construction acts in elementary and secondary education. I left Raleigh more than ten years ago, and still no bill has been passed. The reason is that priority has been given on programs--and that is properly the place to start. There is no point in trying to house something that we do not have. It is too bad that construction and programming cannot start simultaneously, but if priority has to be given apparently it must go to the program rather than to facilities.

Where federal aid for construction is available, I think that for the most part the funds might be used for kindergartens in the states in which kindergartens are recognized as part of the regular school program. That would be true in California, which has an extensive state aid program for construction.

I understand that Virginia in the fall of 1968 started for the first time a state program for kindergartens, but it is my understanding that no state aid was given to construct the facilities. I live in Fairfax County, Virginia, across the river from Washington, and I know that the local school system has constructed a few facilities and does have a few kindergartens.

The North Carolina legislature is now about to pass a $3 million appropriation for state supported kindergartens for the first time. I know of nothing in the act that has been introduced that would prohibit the funds being used for construction, but it is obvious that with over a million children enrolled in grades one through twelve, $3 million will not go far in the way of building facilities for kindergarten children.

So we have to rely on normal means of financing, and these are, I am sure, familiar to most of you. A few states have foundation programs. Georgia has a building authority as the technique employed. South Carolina and Mississippi use the term commission. Normal means of financing facilities for elementary and secondary schools must be found by the local districts. The local district is where the burden still rests to a large extent, with very minor assistance from the states and from the federal government. The usual method here is through putting a bond issue before the people, who will vote whether or not bonds will be issued, sold, and the proceeds applied to construction. A secondary method is of course the annual levy whereby funds are accumulated during one fiscal year and are applied toward construction.

There are a few instances where state laws permit the local district to accumulate monies through a capital reserve fund. That is, the district collects some this year, some the next year--maybe for a period of five, six, or maybe ten years--until they get enough money together at one time so they can expend it wisely.

There are a few more or less new methods opening up. Dr. McClurkin mentioned that Minnie Pearl's subsidiary is developing. A member of our staff who has met with that group on several occasions told me that the president of this subsidiary is a former governor of Kentucky, Edward T. Breathitt. With that kind of interest and that kind of political and financial finesse, it looks to me as if we can expect Kentucky to make real progress in the day-care business. It is a business as far as they are concerned, although I do not doubt that they will have quality programs.

There is a lot of interest on lend-lease as a means of financing facilities. We were asked by Congresswoman Green within the last several weeks to develop a paper on what are the ramifications for the lend-lease method of financing educational facilities. She was not aiming it at any one level, but at elementary and secondary education generally; so that while lend-lease is practiced by some school districts already, here is an indication of possible interest on the part of the federal government in a lend-lease type of financing.

There are local authorities which operate somewhat as state authorities. Pennsylvania is one state that has local school building authorities; Indiana is another, whereby a quasi-governmental agency created by the legislature can pledge the credit of the state toward, and of the authority itself, against the cost of constructing facilities.

The job we have in trying to provide sufficient and adequate facilities for elementary and secondary education is a tremendous one. We did a study in the Office of Education last year, published in May 1968. An economist in our home division headed up the task force, which had representation from each unit within the Office of Education that had a particular interest in what the projected means are for a five-year period, and the group came up with the following figures for pre-school, incorporated in the Federal Register in July of 1968 (and therefore has status now): for three- and four- and five-year-olds in the five-year period, 1968-69 to 1972-73, there will be required 2,165,000 student stations. The gross square footage required will be 129,000,000. Or, if you break that figure down into the usual category of classrooms (I agree with Mr. Hymes that the term is a very poor one to use, but in the absence of some other unit of measure, it is still being used) the number would be 108,200. If we figure on a very low average cost per square foot--something like $15, and that is awfully low, and is increasing about 1% per month in most parts of the country--it would mean that in five years about $185,000,000 would be required to finance facilities just for three- , four- , and five-year-olds. That amount does not take into account the backlog of facilities needed for grades one through twelve and the tremendous burden we are all facing in trying to provide adequate facilities for community colleges and other areas of higher education, as well as for vocational and technical education.

I don't think it is possible that these needs can be met as we traditionally have financed facilities. It is obvious that new methods must be found. Few of us, I think, would disagree with the contention that this country has the economic resources to provide adequate educational programs and facilities for all our youth as well as for adults still pursuing educational programs; but as long as we have to rely on our ad valorem taxes, taxes on properties, as the principal means of financing facilities, we are not likely to meet all our educational needs. Ultimately, it is going to take a partnership involving the local school district, the state department of education, the federal government, and private enterprise--private schools and businesses that go into education for the profit motive.

Perhaps out of our discussions here we can get some ideas as to how new means of financing education can be found. It is too bad that this conference was not scheduled for after the end of June, because it so happens that I am chairman of a task force in the Office of Education, instigated by Secretary Finch, to develop a paper on how to finance educational facilities in this country. What we are planning to do is to bring in an expert in school finance from one of the universities and another expert in public finance outside of school finance, and each will develop his own concepts of how school financing might be done. These two experts met in Washington this week to get instructions and to get their papers under way. At the end of about two weeks, during which time they will be developing their ideas, we will try to combine the work of the two, as a staff job in our office, so that the result will represent to the extent that it is possible a plan with coherence. Then we are going to ask both men to present it to a sounding board, a group of six or eight experts whom we will invite into the office. These two people will present their ideas as to how facilities might be financed, and out of that hopefully we can develop their original papers into something that will be acceptable to the present administration.

I might say that the Higher Education Facilities Act does provide funds for construction, although the budget at this point as projected for next year is going to decrease for all types of higher education facilities except those designed principally for religious purposes and for spectator sports. The priorities are those that are available to private and public, and the priorities are established by the state commissions on higher education. A university or college would place its application to the state commission on higher education, which recommends to the U. S. Office of Education those projects which the commission feels under the amount of money allocated to the state should be the ones approved. The final decision is made with the commission of education of the state, who follows the recommendations of the commission and of the advisory committee which has been established in the Office of Education. So if you can get your state commission to agree that it should have high priority in your state you might get a type of demonstration school within the university program.

I think that while new techniques are being developed we should be trying to further capitalize on the sources and means that are currently available, through new efforts of local financing, through further state support for programs and facilities, and if you are so inclined, through greater participation on the part of the federal government.

FACILITIES FOR THE PREPARATION OF PROFESSIONAL STAFF

Alfred Panepinto, AIA

Architect
Philadelphia, Pennsylvania

AT THE invitation of Dr. C. W. McGuffey I am here to give an account of our experience in designing the Hampton Institute building for housing facilities for preparing professionals to work in early childhood education.

We started with one building committee headed by an opinionated lady administrator of the department. When the working drawings were nearly completed, this lady left the college, and another one with different ideas took her place. Many of these ideas contradicted the first lady's and there seemed to be logical reasons for the changes. Before the drawings and specifications were put out for bid, one of the lady trustees of the college (from New York) vigorously objected to several items in the design. The most violent objection was to the circular shape of the main building. When she practically threatened to resign over this shape, another lady trustee from North Carolina came to our eleventh hour rescue. I should say eleventh month rescue, because we lost just about a year during this opinionating.

Our rescuer, backed up with 40 years of experience in early childhood education, had breakfast with our New York trustee in the big city, and convinced her that our circular plan best met the requirements of their program. We still bless North Carolina!

So -- you can see why I have been concerned about this presentation. Many of you may have different thoughts on how such a building should be planned. At any rate, we shall attempt to give the reasons for the design chosen.

I might say that during construction, still another administrative change was made which meant further revisions. The final building, completed last year, represents the guidance of the main teacher of the department, Mrs. Illeana Johnson, whose objectives were planning for a long-range program of principles, rather than a building to satisfy individual whims and fancies. The ultimate construction reflects all of the feasible guidelines suggested which we will outline in a few moments as the scope for the building.

Hampton Institute is a waterfront campus on Virginia's Lower Peninsula, just north of Norfolk. It is a private co-educational College of Liberal Arts and Applied Arts and Sciences, Teacher Education and Technology. Founded in 1868 the Institute now has 2,500 students.

Following is the outline of scope for an Early Childhood Education Building as given to the architect.

GENERAL CONSIDERATIONS

Site should be easily accessible, and large enough to provide safe access to the building and adequate space for play areas. These should be planned for individual as well as group activities.

There should be adequate parking space for the staff and "easy circulation" driveways for vehicles to take on and discharge children.

The building should have flexibility.

Adaptability for use by young children must be planned for.

The building should be well insulated from heat and cold.

It should be built close to the ground.

It should have soundproof and fireproof construction.

There should be a service entry for deliveries as well as for garbage pick-up.

Building occupants in the nursery and kindergarten are endlessly active and never ready to sit quietly for any length of time. They learn through doing, touching, sensing, and exploring.

Everything the young child does is part of his learning process. It is most pleasurable learning. And the kind that makes the most indelible impression on him comes through play.

Instructional spaces should be entirely different from typical elementary classrooms.

Furnishings should be easily movable for a variety of activities. Floor coverings should be both hard and soft, depending upon the activities involved.

Size of classes should be small. The younger the children the smaller the group because of small children's great need for individual guidance and attention.

3-year-olds: maximum of 15 children to a group, with ratio of one adult to five 3-year-olds.

4-year-olds: 18 to a group--2 adults to fifteen 4-year-olds.

5-year-olds: 20 (maximum) to a group with one teacher and one assistant.

Space provisions

Interior: According to authorities - 35 sq. ft. of clear space/child, exclusive of storage and lavatory facilities. Built-in equipment is a minimum.

Exterior: Play space - minimum of 75 sq. ft./child, and if available, 200 sq. ft./child. This area should be immediately adjacent to the school building and planned for easy supervision.

CLASSROOM AND RELATED REQUIREMENTS

Young children need space and equipment that permit freedom of activity and provide for creativity on the part of the child. The classroom should be large enough for children to live and work together without strict regimentation.

All classrooms should be on the ground floor.

For ease of supervision, there should be no hidden areas.

Ceilings should be acoustical with a minimum height of 10'. A changing ceiling height is desirable to reduce the noise level, relieve the monotony in a large area, and provide for a feeling of greater freedom.

Floors must be suited to hard wear. Areas for hard coverings should have vinyl-type tile, and soft areas should be carpeted.

Windows: Sills should be low enough so children can see out. Natural light intensity can be controlled with blinds. A canopy over the windows will reduce a glare and cut down on air-conditioning requirements.

Doors should swing easily for the small children to handle. Direct exits to the play area are very desirable.

Walls of concrete block, if needed to meet the budget, can be an advantage acoustically by eliminating a block filler in the painting specifications.

Paint on interior walls should be a non-gloss plastic type for durability and ease of cleaning. This treatment of the walls is more economical and is superior to ceramic tile. Its superiority lies in the fact that there are no bare cement joints as we have in ceramic tile. These cement joints are porous and will become soiled very easily and the embedded dirt is difficult to remove. Two other serious disadvantages in the cement joints are the absorption of odors and their porous nature which makes ready receptacles for the accumulation of bacteria. This is even more important in an Early Childhood building since nearly all areas are used in one way or another for the dispensing of food.

Paint colors: Light soft shades will not only enhance a pleasing atmosphere, but also give a feeling of spaciousness.

Roof framing: Exposed steel should be avoided. Bar joists without suspended ceilings have been used for economy so extensively in one-story school buildings that we have come to take the system for granted. The warehouse character of this exposed steel is unattractive enough. Far worse than the disadvantage of appearance is the fact that in case of a fire (and we are assuming all of the occupants get out safely) the roof can cave in and you lose the building. This is what happened in the fire at McCormick Place in Chicago a couple of years ago. The intensity of the heat was greatest at the steel supporting the roof...the steel became soft, lost its design strength, and the roof collapsed into the building. The use of laminated timber beams eliminates this hazard.

Clients often ask "What about the insurance rate with a timber roof?" In practically all of the states, insurance rates are lower for buildings with laminated wood beams than with unprotected steel. The reason is easy to see when we consider what takes place. The fire will burn into the wood about 3/4 of an inch. The ash then becomes insulation for the remainder of the beam, and the roof remains in place. During a fire, the firemen are forbidden from going on top of a roof framed with unprotected steel. They do, however, go on a laminated timber frame roof when a fire is going on.

Electrical outlets are needed about every 10 to 12 feet. These should have safety covers and be located above the reach of the youngsters.

Sanitary facilities: Each pre-school room should be equipped with a sink and running water within the room area and a rest-room facility opening from the classroom, with a see-through glass partition. One lavatory and one toilet for every 10 children is essential. The low child-sized fixtures are recommended. During construction utilizing this size of fixtures, I often hear the builders say, "Why do they want this small size, when in their own homes they have the adult size with which they were trained by their parents?"

The mirrors over the lavatories should, of course, be low, as well as the soap and towel dispensers.

The lavatories should be large and with automatic tepid water. They should also be equipped with a disposal drain to catch such substances as sand and clay before they drain into the main system.

A drinking fountain should be in each classroom.

Ventilation should be draft-free whether accomplished with air-conditioning, open windows, or ventilating fans.

Work tables and counters will be covered with messy materials like clay and paints; so the tops should be both stain-resistant and heat-resistant.

Chalk boards and tack boards should be placed at every available wall area, at the youngsters' eye-level.

Flexibility of equipment: Small alcoves can be arranged from movable cupboards or movable shelves to provide temporary walls. This allows for use by individuals or groups. In these spaces, children can have the feeling of intimacy or share with members of small groups. The sharing of information among these groups and the social skills are important.

Science area can be arranged for growing flowers and plants. Here, small animal cages might also be included. This area should be water-resistant.

Tables should be sectional so that geometric arrangements are possible for maximum flexibility. One table might accommodate not more than 4 or 5 children and an adult. These tables are used for work, play, and eating snacks or meals that are served in the classroom. The height of the tables should be such that the children using them can sit comfortably in chairs with their feet flat on the floor, and have their elbows just touch the tables when their arms are hanging loosely from the shoulders.

Provision for relaxation and rest are needed because of the length of the school day. Requirements include portable cots with washable covers, portable screens, and a storage area connected with the classroom. An important point is that none of the existing equipment in the room should have to be moved in order to arrange the cots for sleeping.

Isolation room for a sick child should be located in a quiet area adjoining the faculty offices, with a vision panel so that the child may be seen at all times by the person in charge.

Private conference space is a necessity, where child, parent, teacher, and student may have discussions.

Locker and storage space when properly planned assists the young child in learning to accept the responsibilities to care for materials, equipment, and personal belongings. He learns the value of orderliness, and develops a sense of classification and organization.

Each child needs a place of his own to store his wraps and personal belongings with easy usability and accessibility. Usually, 10"-15" is adequate for depth, 10"-12" for width, and a height of 35". A clothes rod and hooks with a shelf are provided at the top, with an arrangement for shoe storage at the bottom.

Supply cupboards and shelves for children's toys and materials must be easily accessible. These may be equipped with doors, trays, drawers, or may simply be open shelves. Storage cabinets on casters are desirable. The storage arrangement should be directly off each classroom.

OBSERVATION FACILITIES

For effective guidance, teachers need as much information as they can acquire about each child. The teacher learns much about the child as he observes the selection of activities, his interaction with other children, his ability to plan, his physical vigor, and his emotional attitudes.

Observation spaces should be provided so that parents, students, teachers, and others can see into the large work areas. These spaces may be on the classroom floor level or may be elevated and should have one-way glass so that the children will not be aware of the observers. Provision for televising classroom action from these spaces should be made.

EATING FACILITIES

The dining area doubles as the playroom, with tables and chairs in scale with the children, and of materials easily cleaned.

Aside from the main kitchen, a child's kitchen should also be provided.

For the faculty, a kitchenette should be located adjoining the administrative lounge.

ADMINISTRATIVE OFFICES

Offices are in proportion to the size of the program. Offices for the administrator, a secretary, and faculty are provided in addition to a waiting room, all located near the main entrance. The isolation and examination room are also in this administrative area. A faculty lounge adjoining the offices has its own kitchenette and rest room facilities.

OUTDOOR AREA

Young children are curious about their physical environment and physical phenomena. Easy access is a must and each classroom should have a door opening directly outdoors.

Essentials might be listed as:

A balance between sunny and shaded spaces.
Good drainage.
Freedom from hazards.
Combination of surfaces for a variety of activities.
An enclosing fence, with landscaping, for privacy as well as for enhancing the beauty of the area.
Storage area for wheel toys and other large equipment.
Incorporation of the natural features as much as possible.

The Hampton Institute Early Childhood Education Program - School Year 1968-69

Total of 76 children in 4 groups:

3-year-olds	15
4-year-olds	16
Kindergarten	21
First grade	24

Each group has a teacher and an assistant.

This year's Early Childhood Education college students: 15 seniors--usually 2 in a group and they alternate days; 14 juniors. Both seniors and juniors have 2 to 4 hrs./wk. for observation and participation as assistants.

Sophomores and freshmen have mostly observation. The better students get involved as assistants.

Typical Day. Hours: 8:30 AM to 3:30 PM.

First 15 minutes: Arrival activities--hanging coats and inspection of each child.
First activities are quiet pas~~t~~times--puzzles and talking.
Five or six major areas are open for the next 45 minutes and the children move from area to area.
Classrooms are extended into the washrooms for their water play in plastic basins.
Then comes a clean-up and tidy-up period for 5 to 10 minutes.
This is followed by a wash-room period and group story telling or music.
Children get a chance at cooking in the child's kitchen, followed by a so-called "loose juice" time when they come, get some fruit juice, and go back to work or play.
This is followed by a short rest period of 5 to 10 minutes on floor rugs.
A half-hour to an hour of outdoor play precedes their wash-up for lunch.
In mild weather most of their day is outdoors.
Lunch is at 11:15; it is a relaxed time for 30 to 40 minutes.
This is followed by a short story and a nap on the cots.
    The 3-year-olds are in their cots by 12:30 for a two-hour sleep.
    The 4-year-old children take their nap at 12:45 for about 1½ hours.
    The kindergarten group goes outdoors before their sleep time at 1:15. They also sleep about 1½ hours.
The last period is for free play, either at the house corner or on tables and easels. These activities are planned so that the equipment can easily be put away at the end of the day.
Some stories and musical selections are put on tape and the 4- and 5-year-olds use ear phones.

Two of the classrooms are carpeted, and the rest will follow.

The room designated as the "college classroom" has a piano and is used for group singing.

The central rotunda is used for group meeting, guest bands, group painting, and singing and rhythm. They also have scientific displays, films, special activities, and parent meetings in this area.

A tree-house is now planned for the outdoor area. An old 1927 American La France fire engine is now at their disposal besides the usual sand boxes and other conventional outdoor items.

Occasionally they have cook-outs instead of lunching in the cafeteria.

A FEW BUILDING STATISTICS

The main building is 140 feet in diameter with a 34 foot diameter all purpose area.

Gross area of the complex is 25,000 sq. ft. and cost of construction (without movable equipment) was $618,000 or $24.72/sq. ft.

A MONTESSORI SCHOOL

Mrs. Margaret Skutch

Directress, Montessori School
Stamford, Connecticut

AMERICAN educators do a great deal of talking about their belief in the individuality of children, in letting children learn at their own pace, in giving freedom to learn, but sadly, talking is about the only verb that can honestly be applied to these concepts. I have observed in schools around the country and in England whose catalogues list an abundance of magnificent concepts, only to discover that the application is thin and fragmented at best.

I believe that the Early Learning Center really acts on its belief in childhood. The fact that this is sometimes a painful process must not be overlooked. We are an eclectic school blending the philosophies and strategies of Montessori, Leicestershire, and Summerhill.

From the school's inception we have been keeping a running record, a log of our activities and efforts, problems, breakthroughs, disappointments, and successes. The object in all this has been to offer other communities the fruits of our experience. It has become apparent that good pre-school and "free" school programs may well help effect innovations in education since they are not now part of the Establishment. Certainly there is a crying need for innovation in education, and as there is less historical precedent and organized curriculum at the pre-school level, there is more freedom here to experiment with new techniques.

The current emphasis on the importance of early learning may lead to public education at an earlier age. Good models of how to do this are needed so that these classes do not teach the same thing the same way, only sooner. At the ELC we understand education to be a process of life rather than a separate preparation for life and this concept is adaptable to education at any level.

We offer a first draft for others' efforts rather than a stencil for exact mimeographed copies of ours. At the same time, we are trying to offer real help, not mere stimulus, in the hope that more communities will be encouraged to start "vest pocket" pre-schools and primary level classes which are directly responsible to the community.

What we have done should work if routinely copied. However, it is more important that we offer a concrete and exciting point of departure for those who wish to adapt our ideas and experiences or develop them further. We believe that a diversity of groups in many communities will be able to translate what they see in our model to their own needs, tailoring the product to the situation it will serve.

Currently the best facilities for pre-school children tend to be in urban or university complexes and established for experimental purposes. These facilities, while they develop specific techniques and materials and make certain kinds of discoveries of general application, cannot serve as operating models for others, because they usually have a superior staff oriented to research and are closely related to the structure and resources of powerful and wealthy institutions. The garden variety pre-school, which must go it alone without the comfortable security of a well padded endowment fund, cannot rely on experimental schools of this kind for a workable model. Local groups generally are initiated and nurtured by laymen, not specialists in school planning, and they need a blueprint of good quality but modest proportions.

Initially, the ELC was developed as a prototype school. That is, we wanted to serve as a center for pre-school education and as a center for training of teachers for pre-school level. Since our goals were set in the beginning, we felt a strong need to continue our philosophy of free learning through the elementary school years and have now extended our prototype goal to include teacher training for the elementary grades as well. In practice, this is not the enormous undertaking it would seem, for the general philosophy of LETTING children learn can be digested by a second grade teacher or a sixth grade teacher and profitably adapted to any age level or learning situation.

The prototype center is able to give specific help to professionals and institutions as well as interested laymen by helping them determine the details of operation and administration of a school of this kind. The architectural design and physical plant stand as an example of what can be done and express the school's firm belief in the value of tailoring the environment to the needs of the children. Schools CAN be imaginatively developed on small budgets and we are sure that we can help smooth the path for quality education starting at the pre-school level.

Every individual learns best through his own personal experience. At the ELC we believe in the right of every individual to be free to experience the world around him in his own way.

We have created a rich environment in which each child is free to direct his own activities and to work with people and materials in ways he feels best fulfill his needs. Hence, there is no set curriculum which each child is required to follow. This does not mean that the children are not learning many of the same things; it means that the same concepts and information may be learned by children at different times and in an unlimited number of ways. There is no requirement to prove the mastery of any particular subject matter; success is measured by a child's ability to draw upon his knowledge and make use of his skills as the need arises. John Holt, the author of How Children Fail and How Children Learn, has said, "The true test of intelligence is not how much you know how to do, but how you behave when you don't know what to do." Inherent in the right to choose WHAT to do is, of course, the right to choose to "do nothing"--to absorb, rather than to produce or to participate. The child learns the equal value of this kind of activity, as well as the necessity of trusting his own emotions.

Personal emotional security, confidence, and the general expectation of success are very important to the use of intelligence in all aspects of life. Many of our individual fears and aggressions, many of the tensions which arise among groups and among nations can be traced to unconsciously determined insecurities which defeat the operation of intelligence. A child or an adult who is confident that he will succeed stands a very good chance of success; one who is doubtful, although with twice the ability, is likely to fail. It is the responsibility of the educator to provide a learning environment for the child which will minimize the opportunities for defeat and failure and maximize the situations which will lead to satisfaction and a growing sense of self-confidence.

We are coming to know how basic to intelligence is the way in which it is constructed--actually built up and shaped. If a young child grows up in an impoverished environment, and still more if he is deprived of an emotional and secure tie to at least one adult, he will suffer in his whole growth. If his deprivation is very severe and especially if it goes on for a long time, the child will become mentally subnormal and in an irreversible way. If the environment of the young child is not impregnated with scientific causality, the child may stay at the level of magical thinking. If his environment does not provide him with the right kinds of experience, whether in measuring or counting and so on, basic mathematical concepts cannot grow. This holds for almost every aspect of thinking.

Intellectual development is dependent upon two things: the environment, human and material, providing a rich and varied pattern of stimuli, and the development of a many-sided sense of security so that a child willingly goes out to seek the stimulus and does not defend himself from it.

Unfortunately, schools today ignore much of this evidence and treat children like parts of a machine in a factory, who will act and react in precisely the same way at the same time. This assumption, on which most of our educational systems today are based, has been ridiculous from the beginning, and although it is being challenged today, the roots are so firmly established that it may take a revolution to change the belief.

The very notion of sequential teaching and learning doled out in 20-minute segments by a teacher who is frustrated with her class size and curriculum demands is preposterous. The challenge now is to show and convince, to demonstrate and prove to parents and educators that children, if allowed to, really WANT to learn. In a totally unstructured but highly stimulating and supportive environment children will far surpass any curriculum goals. We have seen it happen; we know it works; we feel the responsibility of sharing these insights.

In his book, The Classroom Disaster, Leslie A. Hart supports our findings on random learning and gives a fine example in his consideration of a 12-year-old and his mastery of baseball:

> This hideously complicated game involves a long list of skills, a collection of concepts, and a good deal of content that the interested child may swell to encyclopedic scale. Yet this impressive learning achievement results from wildly random exposure. Were baseball taught from second grade on, it would be broken down to "logical" sequences. Great debates would ensue on whether base-running should be taught before fly-catching. Base-running would be reduced to terminology, theory, projects, and drill. A textbook would be needed, of course, which would further embalm the "only proper order." In time, oldsters would insist that kids don't learn baseball as they used to, because the "fundamentals" aren't taught first with lots of discipline. Also, of course, boys would HATE baseball, and play only under threat of a zero or complaint to their parents.

At the ELC each child is free to do as he chooses. His freedom is restricted only to the extent that he is not granted license to interfere with the rights and freedom of the other people in the environment. We want to restore childhood to children, with the firm belief that if allowed to be children in a stimulating environment, they will, in fact, learn in a random fashion all the basics and much, much more. The much, much more will logically include "finding out who they are" and thus gaining a great deal of self-confidence that will be translated into an ability to learn anything at any time. In today's world and tomorrow's, that is probably the most precious gift we can give to our children.

The component parts of free learning are free children, a stimulating and well prepared environment, and adults who act as catalysts to these elements. In other words, we are talking about an equilateral triangle where child, environment, and adult are constantly interacting and learning from one another. No one part has a larger or more important role to play in this trinity than the others, as opposed to the structure of established education where the teacher "has all the lines," the well-stocked classroom full of multi-media equipment has all the space, and the children are left literally with the short end of the stick.

The Children

The British have a fine phrase for the ideal number of children in a classroom. They refer to it as "critical density," because in their Integrated Day program they realize the value of children interacting in teaching and learning. At the ELC we have a large, ungraded pre-primary and primary class which is made up of 60 children from 2½ to 7 years of age. In forming a class of this kind it is important to consider balance in ages and in sexes so that the natural teaching situations which occur between older and younger children can flower in proportion to the class's population. That is to say, it is very important not to have just one or two 2-year-olds who will be constantly adored and, in fact, babied by the older children, because they are so obviously different. With a proportionate selection of 2-year-olds in an ungraded class this kind of attention rarely occurs, whereas the situations that are full of thoughtfulness and compassion between older and younger children occur frequently and naturally.

At the ELC the children are of a variety of ages, sexes, and religions, but I feel that it is to their disadvantage that they are all of a similar economic background. It is my deeply felt belief that the entire school would greatly benefit from a well-proportioned population that would also include a diversity of cultural and economic levels, cutting across color and nationality barriers, so that as the children learn to learn from one another's minds as well as from materials and teachers, they will be drawing on a wealth of experience and attitudes.

We have not been able to establish this policy at a satisfying level as yet for the simple reason that we are not sufficiently endowed financially to give scholarships to those who would make up one end of the scale. From the very beginning we have struggled to keep the tuition low enough so that a wide variety of backgrounds would develop naturally in the school community. Ours has never been a "rich man's school" and the fact that the tuition is notably lower than that of other independent schools in the area is not an accident. However, you can stretch a budget in only so many directions before quality is compromised and so we have had to wait to fill out the remaining gaps in balancing the school population.

The dynamics of the classroom, so affected by the children, is also ultimately affected by the attitudes and actions of the parents of the children. Optimum conditions for learning in the classroom hinge dramatically on the kind of home life the children experience. If he finds support and respect in his home, a child will find it easier to react to the support and respect he receives at school, and of course will deal in the same way with the other children in the environment.

If at other levels you are seeking diversity on the issue of home support the school community should be as much in accord as possible. When admitting children to the school you are also admitting parents and it is to the advantage of everyone concerned that the parents understand and believe in the philosophy on which the school is run. Since the school itself is only one of the major elements in education, the family and the community being the other two, it cannot work in isolation but must attempt to bring the outside community into a fuller relationship with itself. If the community is incomplete or not even existent, then it may be the school's responsibility to set about building some kind of coherent community around itself, by involving the parents in the children's education.

There is nothing truer than the old adage: "If you really want people to like you it is better to let them do something for you than to do something for them." Thus, if you wish to have an active and alive community around the school, it is essential that the parents and others be asked to do things for the school and the pupils. Parents deeply involved in their children's school can learn the satisfying pleasure of work for a clearly perceived end and as a real community service, an experience sometimes denied them in their working lives. In this way they may learn what the uncorrupted child knows--that there is no essential difference between work and play. The real opposition is with toil--work without joy, whatever kind of work it is, is brutalizing toil.

The Environment and Materials

Attractive in its simplicity, the environment should be a clear statement of its purpose. It should be a guide and a stimulant to learning and through its very arrangement help a child to understand and respond to order. Simple order is vitally important to the task of learning how to learn. The composition of materials on the shelf and component parts of each single piece of material can be a constant lesson to the child, a demonstration of the importance of seeing things in an orderly arrangement.

Good design and careful organization and display of materials are essential elements of a free learning situation. Woven into the very structure of our school are a number of learning opportunities: the way the roof sheds water after rain, not into hidden gutters and silently slinking down into the ground, but rather in sweeping arcs that noisily spurt away from the four corners and spill into graveled pits designed for this purpose alone. Rainy days are not Dullsville when you can look out the windows at four waterfalls and maybe spend some time wading in the dry wells when you think no one is looking.

With clarity and attractiveness as the hallmark of environment, the only other necessary factor is respect and this can be provided by carefully scaling the height and even the width of all of the furniture to relate comfortably to the size of the children using it.

The materials in the classroom, the "library of things to do," should be selected for their simple and direct statement of purpose, for their handiness, and of course for their attractiveness.

Dr. Maria Montessori gave us, all the world of education, a rich legacy of well-structured, coordinated learning devices, which if used with respect but not awe, can be exciting stepping stones to building a good environment for learning. This equipment, in use all over the world for the past sixty years, offers children experiences in fundamental problem-solving and clarifies concepts basic to all curriculum areas. The exercises devised by Dr. Montessori help children to be observant, by exposing them to a wide variety of patterns of organizing work. The techniques of absorbing, practicing, and mastering a set of information are inherent in every activity. These challenges to develop many kinds of coordination and judgment reflect the lessons learned by the enlightened mind of a research scientist.

The materials imported from England that have been developed for the English free learning schools, also called Integrated Days, Discovery Learning, or the British Method, dovetail nicely with the Montessori materials, and complement and amplify the structures that Maria Montessori set out to provide for young children's learning. They also bring the Montessori materials up to date, providing tools designed to implement the discoveries of how children learn made since Dr. Montessori's time.

Basically Montessori developed a curriculum via the materials, which can easily be divided into four categories: practical life materials, sensorial materials, materials for understanding mathematics, and materials for dealing with language.

Most good nursery schools have a great deal of what might be termed practical life materials. But it is important not to sweep aside or look too quickly at these, as water play and housekeeping materials, for by giving structure to such child-pleasing activities as shoe polishing, carrot peeling, and shoe tying, Montessori has also come to grips with the issue of self-respect for very young children. For a while there is a burning need for a 3- or 4-year-old to "Do it myself," which may often mean "I want to do it myself." Our twentieth-century, always-in-a-hurry adult may simply not be willing to allow the child's tedious (to the adult) action to occur. Therefore these well thought through aids to independence as exemplified in the tying frames allow the child of three to develop these much wanted skills to a pace that suits his ever speeding family. The beauty of using Montessori materials for the youngest children is that they are so well structured and coordinated and are designed to build the child's confidence in his own abilities, reinforcing his positive sense of achievement at every step in the exercise.

Respect is shown to the child by assembling in one basket all the items necessary for polishing the shoe, and in so doing another silent lesson is given by showing the child that by following the order of use of the tools within the basket he can achieve his desired goal--in this case, a shiny shoe.

In our culture we have observed that the youngest children, the 2's and 3's especially, benefit most from the highly organized "Montessori task" such as elaborate table and hand washing schemes, and do, in fact, enjoy the teacher-given lesson as a guide to achieving these ends. However, though I do feel that no child should be made to go through these patterned steps, certainly it should be clear that children are free to explore the practical life materials and invent new ways to care for themselves and their environment.

Unfortunately, my observation of many Montessori schools in this country gives me an uneasy feeling that the teacher is doing everything else BUT respecting the child while putting him through these prescribed paces. Too rigid application of the Montessori patterns makes a puppet of the child although it does present to the visitor and observer a satisfying picture of "the little mind at work." The lack of spark and vitality in the child's face and actions as he goes through the motions is a dead giveaway that the spontaneity has gone out of acting, of learning, and the whole thing is as dead as last week's bubblegum.

Sensorial Materials

The sensorial materials start the process of learning how to learn, with the basic concepts of matching and grading. The well-structured materials lead the child down the path of perceiving, with his eyes, his ears, his nose, his fingertips. This is really a process that takes place in all learning, although we know little about how learning actually takes place. It has been stated that when we meet something new we have to match it to whatever concepts we may already have, and grade it into our store of knowledge or sensation surrounding the new experience. Thus sensorial materials allow the child to get in touch with his essential pattern for learning via classifying and categorizing of smells, bells, prisms, blocks, fabrics, beans, and so forth.

The children are encouraged to expand their awareness and indulge their senses in this environment. I once heard a parent complain that his child was "touching" everything at home, behavior of which he did not approve. The blame for this was rightly placed on the school. We had encouraged this child as well as all the others to "touch" in the classroom, and of course it had carried over at home.

Mathematics Materials

You cannot truly understand an abstract concept without first experiencing the reality of it. The smallest children in the school handle all of the Montessori materials and glean something from their use at every level of their development. Children come to school even at an early age with a great deal of mathematics understanding which is disorganized and unsystematic, and manipulation of the concrete mathematics materials can help him pull his abstract knowledge into logical systems. He may be able to count in rote fashion or even repeat addition facts which he has learned from playing games or listening to older children. But it is important to enable a child to see the scientific order of numbers and the many fascinating aspects of a real understanding of mathematical concepts. The 3-year-old can easily manipulate mathematical materials such as the Dienes blocks, and Cuisiniere rods, and be working with mathematical concepts that are not usually "taught" until high school.

Most of the time the children do not know they are learning something. When mother asks them "What did you do at school today?" they will answer "I played. What did you think I was doing?" Immediately mother translates this into her definition of play, that is, he must have been running around the school yard all day or hanging upside down on the jungle gym from 9 to 12. More probably, Johnny was experimenting with some of the school equipment, which he sees as toys and his work with them was play. Mathematics is not treated (as is no subject) at a specific time, with a notebook to fill and all the organized paraphernalia which paralyzes the brain and blocks out learning. Rather it is treated as an opportunity to communicate the function of numerals. That is, children are buying and selling in the classroom store, weighing and measuring, actually constructing architectural monuments, working with the calendar, the temperature, the angles of the shadows of the sun, counting apples picked in the orchard, and so on. These real life situations help to bring about a real understanding of the principles involved in computation.

You might call it the "iceberg theory of education." Without being aware of it, the child is storing up a vast reservoir of generalized knowledge, not of facts alone, but rather of abstractions, processes of thought, means of organizing and ordering new experiences, and of confidence in his ability to make his own path to understanding. All this growth cannot readily be seen on the surface. Johnny may not be able to zip off the multiplication tables backwards as a parlor trick to impress Grandma, but oddly enough, Johnny probably understands the functions of algebra better than his parents do, although he might be hard put to verbalize his knowledge.

However, it is to be hoped that Johnny will not have to grow older and older with an ever diminishing grasp of math like his parents who memorized it all at the proper ages and grades and just as promptly forgot most of it. Use of the concrete materials from an early age helps the child to develop a depth of understanding which will carry over into maturity, eliminating many errors and mental freeze-ups which come, not from a lack of basic intelligence, but out of fear of the whole incomprehensible subject of mathematics.

Language Materials

When we talk about learning language in school, we realize that we are working with a child who has already mastered the greatest feat of learning in the language area--how to speak. I cannot deal with the subject of language and the materials we use without thinking of the awful truth of the statement made by Bill Hull quoted in the beginning of John Holt's book, How Children Fail: "If we taught children to speak, they would never learn."

With today's TV and the fact that the child is bombarded with letter symbols at every turn, there is little need to motivate a child to read. In fact, many very young children, the 2's and 3's, come to school at a reading or nearly reading level and flourish in the supportive language environment which we provide. No stress is put on reading, but enormous pleasure from reading is obviously present on the part of adults and the reading children in the class.

Dr. Montessori's sandpaper letters are truly a sensorial boon to the young child in learning the names and sounds of letters and helping him bridge the great gulf of understanding that words are talking written down. While a heavy emphasis in our language in the school is on the phonics approach to reading, we certainly recognize the many pitfalls of a phonics program in the English language and we use portions of all good reading approaches.

While we may have a 3-year-old who reads, we also may have a 7-year-old who does not, or who reads poorly. The cause of lack of reading is hard to determine, as the number of older children who are not reading is so small. However, it would seem that in the life of the non-reading children, particularly, there has been great pressure to achieve this highly valued standard, and to achieve reading skill has become an all out goal for the whole family. We feel the school can here offer its best help, by taking the pressure off the child and dealing with his or her strengths and talents. Recent studies on this subject seem to indicate that dyslexia is best overcome by simply ignoring the problem for a while, allowing it to recover its proper proportion in the whole scheme of learning.

It is hard, though, to convince concerned parents that the ability to read, and the earlier the better, is not the be all and end all of their child's education. The real value of a 3- or 4-year-old's reading is simply that this hurdle has been vaulted effortlessly at an early stage before it begins to loom larger and larger and becomes a monstrous obstacle to overcome--or else! A child may get great pleasure out of reading at 3, 4, and 5 and will certainly enjoy the enthusiastic response of parents, grandparents, and maiden aunts, to this new proof of his superiority. But aside from this social value the child will not, in this McLuhan age, be gaining any sizeable advantage over his non-reading peers.

Children will often start off at an early age with very promising indications that they will go rapidly from "See Spot run" straight to the Encyclopaedia Britannica, and then they slow down somewhere around, say, Dr. Seuss. The frantic parents find it difficult to adjust with patience to the plateaux of learning that children often undergo. Johnny may sit and digest what he has learned so far for a very long time, giving no indication whatever that he has progressed an inch, and then suddenly take off again down the path he had apparently abandoned. If Susie is the only Brownie in the troop who cannot read the manual, and Jane gets left behind in her Sunday school catechism it is just a temporary lag, and left in peace they will catch up in their own time and at their own pace.

As Roy Illsley, headmaster of the Battling Brook Country School in Leicestershire County, has said:

> It doesn't matter what system you use--Froebel, Montessori--you've got to make it your own. You can't give a child an experience, you can only help him to have his own. I just can't see education as this desire to turn children out to a pattern, kind of middle-class, conforming nonenities. It's difficult to know what the result of our experiments here will be, there's so little knowledge as yet into how people do actually learn. But we do our honest best.

THE ATLANTA STORY: PLANNING FACILITIES FOR KINDERGARTEN EXPERIENCES

Dr. Jarvis Barnes

Assistant Superintendent for Research and Development
Atlanta Public Schools
Atlanta, Georgia

TEACHING can be fun, and enjoyable, particularly the teaching of little people such as those of kindergarten age. The behavior of these little ones is sometimes a paradox. They explore, mimic, love, trust, cry, listen, jabber, fight --to mention just a few manifestations. After all, they have lived four to five years and according to some early childhood specialists should have already developed from sixty to seventy per cent of their capacity to think creatively. In other words, they are approaching a "maturity." Accordingly, teachers are confronted with little people who bring to the formal educational setting experiences and knowledge provided by the very important informal, preschool educational program. Thus, the initial challenge confronting the teacher is how to provide opportunities which will develop optimal futures based on varied pasts. In what kind of setting should the opportunities occur?

In proceeding to develop an instructional program for the kindergarten child, the teacher is concerned with four basic components, each of which confronts teachers in general. The teacher needs information and assistance in coping with (1) performance objectives: exactly what the pupils are expected to accomplish; (2) the learning characteristics of pupils: their interests, abilities, hopes, and fears; (3) media: people, places, and things which can be used as vehicles in the pursuit of the objectives; and (4) strategies: instructional procedures and methods which facilitate the pursuit. Among these, the immediate concern in planning educational facilities for kindergarten children is with media and how the media interrelate with the other three components of the instructional program. More specifically, the concern is with the place or the environment in which the experiences are to occur.

The kindergarten classroom becomes the link between the informal and formal educational world. Formerly, it was the initial link, but the current trend of providing preschool experiences is changing this relationship. Many children today have had day-care, nursery, or prekindergarten experience by the time they enter school. Consequently, the physical properties of the kindergarten room should manifest flexibility in order to accommodate the varied backgrounds of the children during their pursuit of the performance objectives. Furthermore, in this pursuit of the performance objectives various activities will be related to developing the cognitive, social, motor, and affective domains of the kindergartners. Thus, the classroom as a link will serve to permit the recognition of two concepts: there are teachers other than those employed by the school system, and there are locations of instruction other than those located in school buildings. However, the classroom is the home base for implementing these two concepts, as well as for offering the more formal educational experiences.

In planning for the construction of a kindergarten facility, the school administrator is responsible for providing the architect with educational specifications: functional relationships which are to occur in the desired space, their area and volume requirements, and the environment desired. The architect, realizing that the facilities are to be designed according to these comprehensive educational specifications, should orient the facility aesthetically on the site for maximum utilization of ground surface, for control of natural light, for minimum construction cost, and for optimal accessibility. In basing his design on educational specifications, the architect is concretely demonstrating a theory of school plant planning; and this theory should enable the synthesization and interpretation of research and experience that deal with the factors which affect teaching and learning.

The theory basic to the development of the specifications is a guide for action. Its use results in the awareness by the educator and by the architect of the consequences of their actions. It directs their attention toward processes and relationships rather than toward techniques. It sharpens their analyses by suggesting the meaningless variables which should be eliminated. The use of the basic theory embodied in the specifications, therefore, increases the likelihood of producing significant designs and simplifies the interpretation of the results. It facilitates the collection of facts and the seeking of new knowledge, while serving as a means for explaining the nature of teaching and learning.

The classroom can be considered as one of the available instructional media; and as such its surfaces, equipment, and climate-controlled environment should be appropriate for many activities, some of which are:

1. The work of a differentiated instructional staff which consists of such personnel as lead teachers, regularly certificated teachers, assistant teachers, teacher aides, volunteers, parent helpers, and representatives of cultural and educational agencies in the community.
2. The endeavors of the pupils which are designed to guide each child toward emotional security, wholesome physical activity, stable social adjustment, creative use of materials, and satisfactory solving of daily problems. These endeavors involve periods of activity interspersed with periods of quietness in a program composed of communication skills, humanities, and sciences.
3. The functioning and storage of instructional media--people, places, and things--which include animate and inanimate characters, technological equipment, printed materials, three-dimensional models, operational models, toys, and wet materials.
4. The movement involved in ingress and egress, such as when going to and returning from the playground, the home, the lunchroom, the restroom, and the meetings for small and large group work.
5. The accommodation and safekeeping of personal property--including coats, boots, and rain apparel, to name just a few.
6. The accommodation of observers and visitors, such as student teachers and professional groups.
7. The work of auxiliary personnel, such as those involved in physical, mental, and emotional testing and examinations.

The kindergarten classroom should be flexible in nature. The walls should be movable, figuratively when involving the community and literally when referring to spaces within the school building. The room should be equipped with multipurpose and movable furniture--including easels, tackboards, and wardrobes --which can serve as visual barriers when needed and as enclosures at other times for small group work. The kindergarten suite should have acoustile on the floor as well as in the ceiling: carpeting which can diminish the noise at its source. The planners should use colors and should control the climate, so that the environment will be emotionally and physically conducive to the pursuit of the objectives.

In summary, remember it has been said (contrary to popular belief) that "little people" can deal with "big ideas." Learning, like teaching, can be fun and enjoyable.

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